



## **ABC WAREHOUSE EXPANSION PILE PACKAGE**

**DFCM PROJECT NO. 1007030  
GSBS PROJECT NO. 2002.017.00**

**STATE OF UTAH  
DEPARTMENT OF ADMINISTRATIVE SERVICES  
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT**



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**DIVISION OF FACILITIES CONSTRUCTION & MANAGEMENT**  
**GENERAL CONDITIONS**

March 20, 2002

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# GENERAL CONDITIONS

## ARTICLE 1. GENERAL PROVISIONS.

### 1.1 BASIC DEFINITIONS.

**ADDENDA.** "Addenda" means the written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents or the Contract Documents.

**BID.** "Bid" means the offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

**BONDS.** "Bonds" mean the bid bond, performance and payment bonds and other instruments of security.

**CHANGE ORDER.** "Change Order" means a written instrument signed by the Owner and Contractor, stating their agreement for changes of the Contract as specified on the required Owner's change order form.

**CLAIM.** "Claim" means a demand or assertion by one of the parties seeking, as a matter of right, modification, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. A Request for Equitable Adjustment (REA) shall not be considered a "claim." If a Request for Equitable Adjustment is denied in whole or in part, a claim may be filed in accordance with Article 4 of these General Conditions.

**CONSULTANT** (including all design professionals). "Consultant" means the person lawfully licensed to practice architecture or engineering or an entity lawfully practicing architecture or engineering identified as such in the Consultant's Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Consultant" also means the Consultant's representative and its consultants. When these General Conditions are part of a Contract in which the design professional is an interior designer, landscape Consultant or other design professional, the term "Consultant" as used in these General Conditions shall be deemed to refer to such design professional. A license is not required when the type of design professional is one which is not subject to a professional license, but such professional must meet the prevailing standards in the State of Utah for such practice.

**CONSTRUCTION CHANGE DIRECTIVE.** A "Construction Change Directive" means a written order signed by the Owner, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions; even if it may impact the Contract Sum and Contract Time.

**CONTRACT.** The Contract Documents form the Contract for Construction. The term "Contract" represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Consultant and Contractor, (2) between the Owner and a Subcontractor or (3) between any persons or entities other than the Owner and Contractor.

**CONTRACT DOCUMENTS.** The term "Contract Documents" means the Contractor's Agreement between the Owner and Contractor (hereinafter referred to as "Contractor's Agreement"), the Conditions of the Contract (General, Supplementary and other Conditions), the Drawings, Specifications, Addenda, other documents listed in the Contractor's Agreement and Modifications issued after execution of the Contractor's Agreement. The Contract Documents shall also include the bidding documents, including the Instructions to Bidders, Notice to Contractors and the Bid Form, to the extent not in conflict with the other above-stated Contract Documents and other documents and oral presentations as part of the Selection which are documented as an attachment to the Contract.

**CONTRACT SUM.** The term "Contract Sum" means the Contract Sum as stated in the Contractor's Agreement and, including authorized and signed adjustments to this agreement (modifications), is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

**CONTRACT TIME.** "Contract Time", unless otherwise provided in the Contract Documents, means the period of time, including authorized and signed adjustments (modifications), stated in the Contract Documents for Substantial Completion of the Work.

**CONTRACTOR.** The Contractor is the person or entity identified as such in the Contractor's Agreement and is referred to throughout the Contract Documents as if singular in number. The term "Contractor" means the Contractor or the Contractor's authorized representative. When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case, shall mean the Contractor who executes each separate Owner-Contractor Agreement.

**DAY.** The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

**DEFECTIVE.** "Defective" is an adjective which when modifying the word "Work" refers to Work that does not conform to the Contract Documents, or does not meet the requirements of any inspection, referenced standard, code, test or approval referred to in the Contract Documents, or has been damaged.

**DIRECTOR.** "Director" means the Director of the Division of Facilities Construction and Management unless the context requires otherwise. Director may include a designee selected by the Director for the particular function referred to in the General Conditions.

**DRAWINGS.** The "Drawings" are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, and generally include the drawings, elevations, sections, details, schedules and diagrams.

**FIELD ORDER.** "Field Order" means a written order issued by the Owner or the Consultant which directs minor changes in the Work in accordance with Article 7 but which does not involve a change in the Contract Price or the Contract Time.

**INSPECTION.** The word "inspection" or its derivatives shall mean a review of the Project, including but not limited to a visual review of the Work completed to date to ascertain if the Work is in accordance with the Contract Documents, including all applicable building codes and construction standards.

**MODIFICATION.** A "Modification" is (1) a Change Order (2) Construction Change Directive or (3) Field Order. The Contract may be amended or modified only by (1) a written amendment executed by both the Owner and Contractor, or (2) by a Modification.

**NOTICE TO PROCEED.** A "Notice to Proceed" is a document prepared by the Owner and by its terms authorizes the Contractor to commence Work on the Project. It is deemed issued upon being sent by the Owner to the Contractor's specified address within the bid or proposal.

**OWNER.** "Owner" or pronoun used in place thereof, means the State of Utah, as represented by the Division of Facilities Construction and Management of the Department of Administrative Services. The Owner is referred to throughout the Contract Documents as if singular in number.

**OWNER'S DESIGNATED REPRESENTATIVE.** "Owner's Designated Representative" means the Owner's Program Director or other representative as assigned by the Owner.

**PARTIAL USE.** "Partial Use" means placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work. This partial use does not constitute "substantial completion".

**PRODUCT DATA.** "Product Data" means illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

**PROJECT.** The "Project" means the total construction of the Work performed under the Contract Documents.

**PROJECT MANUAL (FOR CONSTRUCTION).** The "Project Manual" is the volume assembled for the Work and may include the bidding requirements, sample forms, General or Supplementary Conditions of the Contract and Specifications.

**REQUEST FOR EQUITABLE ADJUSTMENT.** A "Request for Equitable Adjustment" (REA) is an informal request to resolve matters. It shall not be considered a "claim." If a Request for Equitable Adjustment is denied in whole or in part, a claim may be filed in accordance with Article 4 of these General Conditions.

**SAMPLES.** "Samples" mean physical examples, which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

**SHOP DRAWINGS.** "Shop Drawings" means drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

**SPECIFICATIONS.** The "Specifications" are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards, installation and workmanship for the Work, and performance of related systems and services.

**SUBCONTRACTOR.** "Subcontractor" means the person or entity that has a direct contract with the Contractor or with another Subcontractor to provide labor or materials for the work. Notwithstanding the foregoing, the text in which the term is used may provide for the exclusion of Subcontractors of other Subcontractors or the exclusion of suppliers. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or authorized representative of the Subcontractor. The Term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

**SUBSTANTIAL COMPLETION.** "Substantial Completion" is the date certified by the Consultant in accordance with Paragraph 9.2 and means the date the Work or designated portion thereof is sufficiently complete, and any lack of completion or performance does not reasonably interfere with the

Owner's intended use of the Project, in accordance with the Contract Documents so that the Owner can occupy and use the Work for its intended use.

**SUPPLEMENTARY CONDITIONS OR SUPPLEMENTARY GENERAL CONDITIONS.** "Supplementary Conditions" or "Supplementary General Conditions" means the part of the Contract Documents which amends or supplements these General Conditions.

**WORK.** The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all labor, materials, equipment and services provided, or to be provided, by the Contractor to fulfill the Contractor's obligations.

**1.2 OWNERSHIP AND USE OF CONSULTANT'S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS.** All Drawings, Specifications and other documents prepared by the Consultant are and shall remain the property of the Owner, and Owner shall retain all common law, statutory and other reserved rights with respect thereto. Said documents were prepared and are intended for use as an integrated set for the Project which is the subject of this Contractor's Agreement. They shall not be modified or used on any other project without the prior written consent of the Owner and Consultant. Any such nonpermissive use or modification, by Contractor, the Contractor's Subcontractors at any tier or anyone for whose acts the Contractor is liable, shall be at Contractor's sole risk. Contractor shall hold harmless and indemnify the Owner from and against any and all claims, actions, suits, costs, damages, loss, expenses and attorney fees arising out of such non-permissive use or modification by the Contractor. The Contractor and Subcontractors are granted a limited license to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Consultant appropriate to and for use in the execution of their Work under the Contract Documents. All copies made under this license shall bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Consultant. Submittals or distributions necessary to meet official regulatory requirements or for other purposes relating to completion of the Project are not to be construed as a publication in derogation of the Owner's copyright or other reserved rights.

## **ARTICLE 2. OWNER.**

### **2.1 INFORMATION AND SERVICES REQUIRED OF THE OWNER.**

**2.1.1 OWNER'S DESIGNATED REPRESENTATIVE.** The Owner shall designate an Owner's Designated Representative authorized to act in the Owner's behalf with respect to the Project. The Owner or such authorized representative shall render decisions within a reasonable time pertaining to documents submitted by the Consultant and/or Contractor in order to avoid a compensable delay in the orderly and sequential progress of the Project.

**2.1.2 SPECIALISTS AND INSPECTORS.** The Owner will provide certified building inspection services in accordance with the adopted Building Codes. This includes 'routine' and 'special' inspections unless noted in the Consultant Agreement. The Owner may assign an inspector or specialist to note deviations from, or necessary adjustments to, the Contract Documents or to report deficiencies or defects in the Work. The inspector or specialist's activities in no way relieves the Contractor of the responsibilities set forth in the Contract Documents.

**2.1.3 SURVEYS AND LEGAL DESCRIPTION.** The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall review this information, including the surveys and any provided soils tests, and compare such information with observable physical conditions and the Contract Documents.

**2.1.4 PROMPT INFORMATION AND SERVICES.** Upon receipt of a written request from the Contractor, the Owner shall furnish information or services under the Owner's control with reasonable promptness to avoid delay in orderly progress of the Work.

**2.1.5 COPIES OF DRAWINGS AND PROJECT MANUALS (FOR CONSTRUCTION).** Unless otherwise provided in the Contract Documents, the Contractor will be furnished, free of charge, such copies of Drawings and Project Manuals (for construction) as are reasonably necessary for execution of the Work. Owner's Web Page may also provide referenced documents for the Project.

**2.1.6 OTHER DUTIES.** The foregoing is in addition to other duties and responsibilities of the Owner enumerated herein and especially those in respect to Article 6 (Construction by Owner or by Separate Contractors), Article 8 (Payments and Completion) and Article 11 (Insurance and Bonds).

### **ARTICLE 3. CONTRACTOR**

#### **3.1 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR.**

**3.1.1 REVIEWING CONTRACT DOCUMENTS, INFORMATION, REPORTING ERRORS, INCONSISTENCIES OR OMISSIONS.** The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner pursuant to Paragraph 2.1 hereinabove and shall at once report to the Owner and Consultant errors, inconsistencies or omissions discovered. The Contractor shall not be liable to the Owner or Consultant for damage resulting from errors, inconsistencies or omission in the Contract Documents, unless the Contractor recognized such error, inconsistency or omission or a Contractor of ordinary skill and expertise for the type of Work involved would have readily so recognized such error, inconsistency or omission, and the Contractor failed to report such to the Owner and Consultant. If the Contractor performs any construction activity without such notice to the Owner and Consultant and resolution of the error, inconsistency or omission, the Contractor shall assume appropriate responsibility for such performance and shall bear an appropriate amount of the attributable costs for correction.

**3.1.2 FIELD CONDITIONS.** The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor, or information which a Contractor of ordinary skill and expertise for the type of Work involved would have known, before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Owner and Consultant at once. If the Contractor performs any construction activity without such notice to the Owner and Consultant and resolution of the error, inconsistency or omission, the Contractor shall assume appropriate responsibility for such performance and shall bear an appropriate amount of the attributable costs for correction.

**3.1.3 PERFORM IN ACCORDANCE WITH DOCUMENTS AND SUBMITTALS.** The Contractor shall perform the Work in accordance with the Contract Documents and submittals approved pursuant to Paragraph 3.9 hereinbelow.

**3.1.4 PERFORMANCE TO PRODUCE THE COMPLETE SYSTEM AND INTENDED RESULTS.** Performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from the Contract Documents as being necessary to allow the system to function within its intended use.

**3.1.5 INTENT AND HIERARCHY.** The Contract Documents should be read as a whole and wherever possible, the provisions should be construed in order that all provisions are operable. The intent of the contract Documents is to include all items necessary for the proper execution and completion of the

Work by the Contractor. The Contract Documents are complimentary, and what is required by one Document or provisions thereof shall be as binding as if required by all the Documents or provisions thereof. In case of an irreconcilable conflict between provisions within a Contract Document or between Contract Documents, the following priorities shall govern as listed below:

- (1) A particular Modification shall govern over all Contract Document provisions or Modifications issued prior to said particular Modification.
- (2) Attachments resulting from the Selection process including any management plan or documented interview information.
- (3) A particular Addendum shall govern over all other Contract Document provisions issued prior to said particular Addendum. Subsequent Addenda shall govern over all prior Addenda.
- (4) The Supplementary General Conditions shall govern over the General Conditions.
- (5) These General Conditions shall govern over all other Contract Documents except for the Supplementary General Conditions, Addenda, Modifications and Attachments resulting from the selection process.
- (6) The drawings and specifications shall not govern over any of the documents listed above.
- (7) In case of a conflict or ambiguity within the same level of hierarchy of described documents, Owner reserves the right to select the most stringent requirement unless the preponderance of the contract indicates the less stringent requirement.

**3.1.6 DIVIDING WORK AND CONTRACTOR REPRESENTATION.** Organization of the specifications into division, sections and articles, and arrangement of Drawings, shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. Contractor represents that the Subcontractors, Sub-subcontractors, manufacturers and suppliers engaged or to be engaged by it are and will be familiar with the requirements for performance by them of their obligations.

**3.1.7 PLANNING AND PRIORITY.** The Contractor shall plan and schedule its work to facilitate the Project and shall maintain a work schedule to place proper priority to sequence work to complete the project timely.

### **3.2 SUPERVISION AND CONSTRUCTION PROCEDURES.**

**3.2.1 SUPERVISION AND CONTROL.** The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over the construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, except to the extent that the Contract Documents expressly and specifically state otherwise.

**3.2.2 RESPONSIBILITY.** The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors, and their agents and employees, and other persons performing portions of the Work under a contract with the Contractor or on behalf of the Contractor.

**3.2.3 NOT RELIEVED OF OBLIGATIONS.** The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of

the Owner or its agents in the Owner's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

### **3.2.4 INSPECTIONS AND APPROVALS.**

(1) The Contractor is responsible for requesting inspections for various stages and portions of the Work required under the Contract Documents in a timely manner.

(2) If any of the Work is required to be inspected or approved by the terms of the Contract Documents by any public authority, the Contractor shall timely request such inspection or approval to be performed in accordance with Article 9. Except as provided in Article 9, work shall not proceed without any required inspection and the associated authorization to proceed. Contractor shall promptly notify Owner if the inspector fails to appear at the site.

### **3.3 LABOR AND MATERIALS.**

**3.3.1 PAYMENT BY CONTRACTOR.** Except to the extent it is otherwise stated in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipments, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities, supplies, consumables and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

**3.3.2 DISCIPLINE AND COMPETENCE.** The Contractor shall enforce strict discipline and good order among the Contractor's employees, its Subcontractors, agents, representatives and other persons performing under the Contract Documents. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

**3.4 TAXES AND OTHER PAYMENTS TO GOVERNMENT.** The Contractor shall pay sales, consumer, use, employment-related and similar taxes related to the Work or portions thereof provided by the Contractor which are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

### **3.5 PERMITS, FEES, NOTICES, LABOR AND MATERIALS.**

**3.5.1 PERMITS AND FEES.** Unless required in the Supplementary General Conditions or an Addendum, it will not be necessary for the Contractor to obtain or pay for local building permits, plan check fees, electrical permits, plumbing permits, connection fees, or impact fees, nor will it be necessary to pay fees for inspections pertaining thereto.

**3.5.2 COMPLIANCE WITH PUBLIC AUTHORITIES, NOTICES.** The Contractor shall comply with and give notices required by laws, ordinances, resolutions, rules, regulations and lawful orders of public authorities bearing on the performance of the Work.

**3.5.3 CORRELATION OF CONTRACT DOCUMENTS AND ENACTMENTS.** It is not the Contractor's responsibility to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, resolutions, building codes, and rules and regulations. However, if the Contractor observes, or if such is readily observable to a Contractor of ordinary skill and expertise for the type of Work involved, that a portion of the Contract Documents is at variance therewith, the Contractor shall promptly notify the Consultant and Owner in writing, and necessary changes shall be accomplished by appropriate Modification.

**3.5.4 FAILURE TO GIVE NOTICE.** If the Contractor, or any Subcontractor thereof performs Work without complying with the requirements of Paragraph 3.5.3 hereinabove, the Contractor



shall assume appropriate responsibility for such Work and shall bear the appropriate amount of the attributable costs.

**3.6. SUPERINTENDENT.** The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

### **3.7 TIME AND CONTRACTOR'S CONSTRUCTION SCHEDULES.**

#### **3.7.1 PROGRESS AND COMPLETION.**

##### **(1) TIME IS OF THE ESSENCE; COMPLETE WITHIN CONTRACT TIME.**

Time is of the essence. By executing the Contractor's Agreement, the Contractor confirms that the Contract Time is adequate to perform the Work. The Contractor shall proceed expeditiously with adequate forces to achieve Substantial Completion within the Contract Time.

**(2) NOTICE TO PROCEED AND INSURANCE.** The Contractor shall not prematurely commence operations on the site or elsewhere prior to the issuance of a Notice to Proceed by the Owner or prior to the effective date of insurance required by Article 11 to be furnished by the Contractor, whichever is the latter.

**3.7.2 SCHEDULE PREPARATION.** The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Consultant's review a reasonably detailed CPM schedule for the Work. The schedule shall indicate the order, sequence, and interdependence of all items known to be necessary to complete the Work including construction, procurement, fabrication, and delivery of materials and equipment, submittals and approvals of samples, shop drawings, procedures, or other documents. Work items of the Owner, other Contractors, utilities and other third parties that may affect or be affected by the Contractor shall be included. If the Owner is required, by the Contract Documents, to furnish any materials, equipment, or the like, to be incorporated into the Work by the Contractor, Contractor shall submit, with the first schedule submittal, a letter clearly indicating the dates that such items are required at the Project Site. The critical path should be identified, including the critical paths for interim completion dates and milestones. The CPM schedule shall be developed using Primavera, MS Project, or Suretrack unless otherwise authorized by the Owner's Designated Representative. The Contractor's schedule shall be updated at least once a month and submitted with each pay request,

**3.7.3 INITIAL CONTRACT TIME.** Unless otherwise specified in the bidding documents, the initial Contract Time is the time proposed by the Contractor and accepted by the Owner in the selection process.

**3.7.4 INTERIM COMPLETION DATES AND MILESTONES.** The schedule must include contractually specified interim completion dates and milestones. The milestone completion dates indicated are considered essential to the satisfactory performance of this Contract and to the coordination of all Work on the Project. The milestone dates listed are not intended to be a complete listing of all Work under this Contract or of interfaces with other Project Contractors.

**3.7.5 SCHEDULE CONTENT REQUIREMENTS.** The schedule shall indicate an early completion date for the Project that is no later than the Project's required completion date. The schedule, including all activity duration's shall be given in calendar days. The Schedule shall also indicate all of the following:

(1) Interfaces with the work of outside contractors (e.g., utilities, power and with any separate Contractor);

- (2) Description of activity including activity number/numbers;
- (3) Estimated duration time for each activity;
- (4) Early start, late start, early finish, late finish date, and predecessor/successors including stop-start relationships with lead and lag time for each activity;
- (5) Float available to each path of activities;
- (6) Actual start date for each activity begun;
- (7) Actual finish date for each activity completed;
- (8) The percentage complete of each activity in progress or completed;
- (9) Identification of all critical path activities;
- (10) The critical path for the Project, with said path of activities being clearly and easily recognizable on the time-scaled network diagram. The path(s) with the least amount of float must be identified. Unless otherwise authorized by the Owner's Designated Representative, no more than 40% of all activities may be identified as critical path items. The relationship between non-critical activities and activities on the critical path shall be clearly shown on the network diagram;
- (11) Unless otherwise authorized by the Owner's Designated Representative, all activities on the schedule representing construction on the site may not have a duration longer than 14 days. Construction items that require more than 14 days to complete must be broken into identifiable activities on the schedule with durations less than 14 days. The sum of these activities represents the total length required to complete that construction item; and
- (12) Additional requirements as specified in the Supplemental General Conditions.

**3.7.6 OWNER'S RIGHT TO TAKE EXCEPTIONS.** The Owner reserves the right to take reasonable exception to activity duration, activity placement, construction logic or time frame for any element of the Work to be scheduled.

**3.7.7 FLOAT TIME.** Float or slack time is defined as the amount of time between the earliest start date and the latest start date or between the earliest finish date and the latest finish date of a chain of activities on the Schedule. By a proposal request or modification delivered to the Contractor, the Owner has the right to use the float time for non-critical path activities until the Contractor has reallocated such time on a newly submitted schedule.

**3.7.8 INITIAL SCHEDULE SUBMISSION.** No progress payments will be approved until the Contractor has submitted a Project detailed CPM schedule covering the first 90 days of the Work with a general CPM schedule for the entire project. The detailed schedule for the entire project is to be completed prior to the second pay request unless otherwise authorized in writing by the Owner's Designated Representative.

**3.7.9 UPDATES.** Prior to any approval of a pay request, the Owner, Consultant and Contractor shall review the Contractor's schedule compared to the Work completed. The Owner approves the amount of Work completed as supported by the schedule of values. If necessary, the Contractor shall then update and submit to the Owner the schedule with the pay request; all of which in accordance with the Owner's approval. All updates shall be provided in electronic and hard copy formats. At each scheduled meeting

with the Owner's Designated Representative, the Contractor shall provide a "three week look ahead" with long lead items identified.

**3.7.10 SCHEDULE OF SUBMITTALS.** The Contractor shall prepare and keep current, for the Consultant's and Owner's review, a schedule of submittals required under the Contract Documents which is coordinated with the Contractor's construction schedule and allows the Consultant a reasonable time to review the submittals. This submittal schedule is to be included as part of the construction schedule. Submittals requiring expedited review must be clearly identified as such in the schedule of submittals.

**3.7.11 SCHEDULE RECOVERY.** If the Work represented by the critical path falls behind more than 7 days, the project schedule shall be redone within 14 days showing how the Contractor shall recover the time. A narrative that addresses the changes in the schedule from the previously submitted schedule shall be submitted along with the schedule in both hard copy (appropriate report formats to be determined by the Owner's Designated Representative) and electronic copy. The Contractor shall comply with the most recent schedules.

### **3.7.12 SCHEDULE CHANGES AND MODIFICATIONS.**

**(1) CONTRACT TIME CHANGE REQUIRES MODIFICATION.** The Contract Time may only be shortened or extended by a written modification fully executed by the Owner.

**(2) CONTRACTOR REORDERING, RESEQUENCING AND CHANGING ACTIVITY DURATIONS.** Should the Contractor, after approval of the complete detailed construction network, desire to change his plan of construction, he shall submit his requested revisions to the Owner and the Consultant along with a written statement of the revisions including a description of the sequence and duration changes for rescheduling the work, methods of maintaining adherence to intermediate milestones and the contract completion date and the reasons for the revisions. If the requested changes are acceptable to the Owner, which acceptance shall not be unreasonably withheld, they will be incorporated into the Schedule in the next reporting period.

If after submitting a request for change in the Contract Schedule, the Owner does not agree with the request, the Owner will schedule a meeting with the Contractor to discuss the differences.

**(3) CHANGES IN CONTRACT TIME.** The critical path schedule as the term is used in the provisions herein shall be based on the current version of the Contractor's schedule for the Project and accepted by the Owner just prior to the commencement of the modification, asserted delay, suspension or interruption. If the Contractor believes it is entitled to an extension of Contract Time under the Contract Documents, the Contractor shall submit to the Owner's Designated Representative an analysis ("Requested Time Adjustment Schedule") in accordance with the Contract Documents for time extensions. The "Requested Time Adjustment Schedule" shall include "fragnets" that represent the added or changed work to the Schedule. The impact on unchanged activities caused by the changes and/or delays being analyzed shall be included in these fragnets.

A "fragnet" as used in these General Conditions and when used in the context of project scheduling is a subset of project activities that are inter-related by predecessor and successor relationships that are tied into the main schedule with identified start and completion points. Each fragnet may or may not be on the critical path. An entire schedule consists of a series of inter-related fragnets.

### **3.7.13 EXCUSABLE DELAY.**

**(1) IN GENERAL.** If the Contractor is delayed at any time in progress of the Work on the critical path schedule by an act or neglect of the Owner or other causes beyond the Contractor's control or by other causes which the Owner determines may justify delay, then the Contract Time shall be

extended by Change Order. The Contractor shall immediately take all steps reasonably possible to lessen the adverse impact of such delay. Notwithstanding the above, to the extent any of the causes for delay were caused by the Contractor, reasonably foreseeable by the Contractor or avoidable by the Contractor, then to such extent the delay shall not be cause for extension of the Contract Time.

The determination of the total number of days extension will be based upon the current construction schedule in effect at the inception of the change and/or delay and upon all data relevant to the extension as it exists in the project record. Once approved, such data shall be incorporated in the next monthly update of the schedule.

Contractor acknowledges and agrees that delays in work items which, according to the schedule analysis, do not affect any milestone dates or the Contract completion dates shown on the CPM at the time of the delay, will not be the basis for a contract extension.

**(2) WEATHER-RELATED EXCUSABLE DELAYS.** Completion time will not be extended for normal bad weather or any weather that is reasonably foreseeable at the time of entering into the contract. The time for completion as stated in the contract documents includes due allowance for calendar days on which Work cannot be performed out of doors. The Contractor acknowledges that it may lose days due to weather conditions. Contract time may be extended at no cost to the Owner if all of the following are met which must be established by the Contractor:

(a) That the weather prevented Work from occurring that is on the critical path for the project based upon a critical path schedule previously submitted to the Owner and to the extent accepted by the Owner;

(b) There are no concurrent delays attributed to the Contractor;

(c) The Contractor took all reasonable steps to alleviate the impact of the weather and took reasonable attempts to prevent the delay and despite such reasonable actions of Contractor, the weather impacted the critical path as described above; and

(d) one of the following occurred:

1. The weather was catastrophic, such as a tornado, hurricane, severe wind storm, severe hail storm; or

2. Based on the full history of information published from the closest station as indicated from the Western Regional Climate Center (Desert Research Institute 2215 Raggio Parkway Reno, Nevada 89512, and as may be described on their website at <http://www.wrcc.dri.edu/summary/>), one or more of the following occurred:

a. For any day between November 1 and March 31, the minimum temperature fell below the average minimum temperature plus the extreme low temperature recorded for the month divided by 2.

b. For any day between November 1 and March 31, the maximum temperature fell below the monthly average for the minimum temperature.

c. The daily precipitation exceeded 75% of the historical one day maximum for the month.

d. The snowfall for the month exceeded 175% of the historical average snow fall for the month.

### **3.7.14 COMPENSABLE DELAY, SUSPENSION OR INTERRUPTION.**

**(1) BASIC CONDITIONS.** In addition to the other requirements of the Contract Documents, a compensable delay, suspension or interruption of the work occurs only when the following are met:

(a) is wholly unanticipated by the parties at the time of execution of the Contractor's Agreement or is caused by the breach of a fundamental obligation of the Contract Documents attributable to the Owner; and

(b) the Contractor files an REA or claim under Article 4 and such is received by the Owner and said continuation affects the Contract Time as indicated by the Project's critical path schedule.

**(2) COMPENSABLE DELAY FORMULA.** To the extent of the compensable delay, the Contractor's total entitlement for all compensable delay damages is the computed result of the following formula: Contract Sum divided by Contract Time (in calendar days); the result of which is then multiplied by 0.05; and the result of which is multiplied by the number of calendar days of compensable days allowed under these General Conditions that are beyond the Contract Time.

**(3) PERIOD OF COMPENSABLE DELAY, SUSPENSION OR INTERRUPTION.** The length and extent of compensable delay, shall be determined, with the use of the Project's critical path schedule, by ascertaining the number of additional days to the Contract Time that are needed in order to perform the Work in accordance with the Contract Documents as a result of the continuation of the aforesaid delay, suspension or interruption after receipt of the REA or claim by the Owner under Article 4 and following the requirements of 3.7.12.

**(4) CONCURRENT DELAY.** Notwithstanding any other provision of these General Conditions, to the extent a non-compensable delay occurs at the same time as a compensable delay, the Owner shall not be responsible for any compensation for the period of the non-compensable delay.

**3.7.15 TIME EXTENSION REQUESTS.** Any time extension shall be requested within 21 days after the Contractor knew or should have known about the delay and shall be supported by the critical path schedule analysis.

### **3.7.16 LIQUIDATED DAMAGES.**

**(1) IN GENERAL.** Should the Contractor fail to complete the Work within the Contract Time, there shall be deducted from any amount due or that may become due the Contractor, the sum as stated in the Contractor's Agreement. Such sum is fixed and agreed upon by the Owner and Contractor as liquidated damages due the Owner by reason of the inconvenience and added costs of administration, engineering, supervision and other costs resulting from the Contractor's default, and not as a penalty. Actual damages related to delay can not be ascertained at the time of execution of the Contract. To the extent that the liquidated damages exceed any amounts that would otherwise be due the Contractor, the Contractor shall be liable for such excess to the Owner. Owner may seek enforcement of such obligation by legal action, and if such is necessary, shall recover the related costs and attorney fees. Notwithstanding any other provision of these General Conditions, the availability of liquidated damages to the Owner shall not limit the Owner's right to seek damages or other remedies available under law or equity to the extent such damages or remedies are not based upon delay.

**(2) NO WAIVER OF OWNER'S RIGHTS.** Permitting the Contractor to continue any part of the Work after the time fixed for completion or beyond any authorized extension thereof, shall in no way operate as a waiver or estoppel on the part of the Owner of any of its rights under the Contract Documents, including the right to liquidated damages or any other remedies or compensation.

**3.8 DOCUMENTS AND SAMPLES AT THE SITE, CERTIFYING "AS-BUILTS".** The Contractor shall maintain at the site for the Owner, one record copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked weekly to record changes and selections made during construction, as well as approved Shop Drawings, Product Data, Samples and similar submittals. These aforesaid items shall be available to the Consultant and shall be delivered to the Consultant for submittal to the Owner upon completion of the Work, signed by the Contractor, certifying that they show complete and exact "as-built" conditions, stating sizes, kind of materials, vital piping, conduit locations and similar matters. All notes of encountered or changed conditions shall be included.

**3.9 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.**

**3.9.1 NOT CONTRACT DOCUMENTS.** Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The submittal shall demonstrate, for those portions of the Work for which the submittal is required, the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents.

**3.9.2 PROMPTNESS.** The Contractor shall review, approve and submit to the Consultant, Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

**3.9.3 NOT PERFORM UNTIL CONSULTANT APPROVES.** The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved in writing by the Consultant. Such Work shall be in accordance with the approved submittals.

**3.9.4 REPRESENTATIONS BY CONTRACTOR.** By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents that the Contractor has determined and verified materials, field measurements and field construction criteria related thereto, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

**3.9.5 CONTRACTOR'S LIABILITY.** The Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Consultant's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Consultant in writing of such deviation at the time of the submittal and the Consultant has given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Consultant's review and comment.

**3.9.6 DIRECT SPECIFIC ATTENTION TO REVISIONS.** The Contractor shall direct specific attention in writing to all revisions on resubmitted Shop Drawings, Product Data, Samples or similar submittals, except those requested by the Consultant and indicated on previous submittals.

**3.9.7 INFORMATIONAL SUBMITTALS.** Informational submittals upon which the Consultant is not expected to take responsive action may be so identified in the Contract Documents.

**3.9.8 RELIANCE ON PROFESSIONAL CERTIFICATION.** When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Owner and Consultant shall be entitled to rely upon the accuracy and completeness of such calculations and certifications. If a professional stamp is required, the professional shall be licensed in the State of Utah unless otherwise approved by the Owner in writing. Likewise, the Contractor is entitled to rely upon the accuracy and completeness of the calculations made by the Consultant in developing the

Contract Documents, unless a Contractor of ordinary skill and expertise for the type of Work involved would know that such is inaccurate or incomplete and therefore must immediately notify the Owner.

### **3.10 USE OF SITE.**

**3.10.1 IN GENERAL.** The Contractor shall confine operations at the site to areas permitted by the Contract Documents, law, ordinances, resolutions, rules and regulations, and permits and shall not unreasonably encumber the site with materials or equipment. Contractor shall take all reasonable means to secure the site protect the site and the Work from any damage. The site shall be left free and clear of refuse, equipment, materials, etc. and the site shall not be subject to spilled liquids and chemicals, toxic or otherwise. Should such an incident occur while the Contractor has control of the site, the Contractor shall be responsible to clean the site and pay all associated costs, fines and penalties. Notwithstanding this, Contractor is not responsible for any damage to the site or the Work to the extent caused by the Owner or the Owner's agents.

**3.10.2 ACCESS TO NEIGHBORING PROPERTIES.** The Contractor shall not, except as provided in the Contract Documents or with the Owner's advance written consent when necessary to perform the Work, interfere with access to properties neighboring the Project site by the owners of such properties and their respective tenants, agents, invitees and guests.

**3.11 ACCESS TO WORK.** The Contractor shall provide the Owner and Consultant access to the Work in preparation and progress, wherever located.

**3.12 ROYALTIES AND PATENTS.** The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of patent rights and shall hold the Owner and Consultant harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Owner.

### **3.13 INDEMNIFICATION.**

#### **3.13.1 IN GENERAL.**

(1) To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the State of Utah, the State of Utah's institutions, agencies, departments, divisions, authorities, and instrumentalities, boards, commissions, elected or appointed officers, employees, agents, authorized volunteers (hereinafter the above listing of entities and persons is referred to as "indemnities") from and against every kind and character of claims, damages, losses and expenses, including but not limited to attorneys' fees, and including those events covered under the blanket Contractual Liability Coverage required under the Contract Documents, arising out of or resulting from any act or omission in the performance of the Work including the work of all the Subcontractors and their employees, provided that any such claim, damage, loss or expense is caused in whole or in part by the negligent or wrongful act or omission of the Contractor, any Subcontractor, and their employees, provided that any such claim, damage loss or expense is caused in whole or in part by the negligent or intentional act or omission of the Contractor, any Subcontractor, or anyone directly or indirectly employed or the agent of any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. The Contractor shall defend all actions brought upon such matters to be indemnified hereunder and pay all costs and expenses incidental thereto, but the State of Utah shall have the right, at its option, to participate in the defense of any such action without relieving the Contractor of any obligation hereunder. Notwithstanding any of the above, to the extent the Contractor is complying with a written directive from the Owner, that is not based on the Contractor's recommendation, the

Contractor shall not be held liable under the indemnification provision of this Agreement if the Contractor has promptly disagreed with the written directive by delivering such objection to the Owner in writing.

(2) Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person under Contract Documents.

(3) In claims against any person or entity indemnified under this Paragraph 3.13 by an employee of the Contractor, Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Paragraph 3.13 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or Subcontractor under workers' or workmen's compensation acts, disability benefits acts or other employee benefit acts.

#### **ARTICLE 4. ADMINISTRATION OF THE CONTRACT.**

##### **4.1 CONSULTANT'S ADMINISTRATION OF THE CONTRACT.**

**4.1.1 IN GENERAL.** The Consultant assists the Owner with the administration of the Contract as described in the Contract Documents. The Consultant shall have the authority to act on behalf of the Owner only to the extent provided in the Contract Documents or Consultant's Agreement.

##### **4.1.2 SITE VISITS.**

(1) Site visits or inspections by the Consultant, the Owner or any Owner representative shall in no way limit or affect the Contractor's responsibility to comply with all the requirements and the overall design concept of the Contract Documents as well as all applicable laws, statutes, ordinances, resolutions, codes, rules, regulations, orders and decrees.

(2) **WRITTEN REPORT.** The Consultant shall promptly submit to the Owner a written report subsequent to each site visit.

##### **4.1.3 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION.**

Except as authorized by the Owner's Designated Representative or as otherwise provided in the Contract Documents, including these General Conditions, the Consultant and Contractor shall communicate through the Owner's Designated Representative on issues regarding the timing of the Work, cost of the Work or scope of the Work. Contractor shall comply with communication policies agreed upon at any pre-construction meeting with the Owner. Communications by and with the Consultant's sub-consultants shall be through the Consultant. Communications by and with Subcontractors shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

**4.1.4 CONSULTANT MAY REJECT WORK, ORDER INSPECTION, TESTS.** The Consultant shall have the responsibility and authority to reject Work which, based upon the Consultant's knowledge or what may be reasonably inferred from the Consultant's site observations and review of data, does not conform to the Contract Documents. Whenever the Consultant considers it necessary or advisable for implementation of the intent of the Contract Documents, the Consultant shall have the responsibility and authority to require additional inspections or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work is fabricated, installed or completed, provided, however, the Consultant must obtain the Owner's prior written approval of any such additional inspections or testing. However, neither this authority of the Consultant nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Consultant to the Contractor, Subcontractors, their agents or employees or other persons performing portions of the Work, including separate contractors. If the Contractor disputes the rejection of any Work and the correction



thereof shall involve additional cost or time, it shall be the Owner's option to accept such Work whether it be conforming or nonconforming.

#### **4.1.5 CONSULTANT REVIEW CONTRACTOR'S SUBMITTALS.**

(1) Contractor shall submit shop drawings, product data, and samples and other submittals required by the Contract Documents to the Consultant as required by the approved submittal schedule.

(2) The Consultant shall review and approve or take other appropriate action upon Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the purpose of checking for conformance with the information and design concepts expressed in the Contract Documents. Consultant action taken on a submittal shall not constitute a Modification of this Agreement.

(3) The Consultant's action shall be taken no later than 15 days following Consultant's receipt of the submittal, unless agreed to otherwise by Contractor and Owner, in order to avoid a delay in the Work of the Contractor or of separate contractors while allowing sufficient time in the Consultant's professional judgment to permit adequate review.

(4) Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents.

(5) The Consultant's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Article 3 and Paragraph 9.4 of these General Conditions.

(6) The Consultant's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Consultant, of any construction means, methods, techniques, sequences or procedures.

(7) The Consultant's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

(8) When professional certification of performance characteristics of materials, systems or equipment is required by the Contract Documents, the Consultant shall be entitled to rely upon such certifications to establish that the materials systems or equipment will meet the performance criteria required by the Contract Documents.

**4.1.6 CONSULTANT PREPARE CHANGE ORDERS, DIRECTIVES, AND FIELD ORDERS.** The Consultant shall prepare Change Orders and Construction Change Directives with specific documentation and data for the Owner's approval and execution in accordance with the Contract Documents, and may issue Field Orders not involving an adjustment in the Contract Sum or an extension of the Contract Time which are not inconsistent with the intent of the Contract Documents.

#### **4.2 REQUEST FOR EQUITABLE ADJUSTMENT.**

**4.2.1 FILING REA.** Contractor may file a Request for Equitable Adjustment (REA) within twenty (21) days after the Contractor first recognizes or should have recognized the condition giving rise to the REA, whichever occurs first. Failure to so file an REA or a Claim as provided for below shall be considered a waiver of the right to pursue the REA or a claim at any later point. Contractor may file a written request for equitable adjustment (REA) by delivery to the Owner's Designated Representative in an effort to resolve matters that arise on the Project.

**4.2.2 CONTENT.** In order to facilitate the resolution of the matter, the Requests for Equitable Adjustment should state the specific grounds relied upon and the specific relief requested.

**4.2.3 ONLY GENERAL CONTRACTOR MAY FILE.** Only a General Contractor shall have the right to file a Request for Equitable Adjustment with the Owner. No subcontractor at any tier shall have the right to file a Request for Equitable Adjustment with the Owner or maintain any claim on its own against the Owner. Any Subcontractor right to equitable adjustment or claim, may only be with the General Contractor.

**4.2.4 CONTINUING CONTRACT PERFORMANCE.** Pending final resolution of a Request for Equitable Adjustment, unless otherwise agreed upon in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

**4.2.5 SPECIAL ADDITIONAL REQUIREMENTS:**

**(1) CONCEALED OR UNKNOWN CONDITIONS.** If the REA relates to conditions encountered at the site which are (a) unknown and reasonably unforeseeable subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (b) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall give notice to the Owner and Consultant of such conditions within three working days and shall not disturb those conditions without written authorization from the Owner.

**(a) HISTORICAL AND ARCHEOLOGICAL CONSIDERATIONS.** In the event of discovery of any underground man-made object, object associated with humans or animals, or suspected archeological artifact; work must cease until DFCM can make an appraisal of its historical significance. A significant archeological discovery would be treated contractually as an unknown site condition. Contractor cooperation with the archeologists is a requirement of this contract.

**(2) INCREASE IN CONTRACT SUM.** If the REA relates to a request to increase the contract sum and the Contractor claims the work is not included within the already executed contract and modifications, then the Contractor shall process the REA and have written approval from the Owner prior to proceeding with the work sought to be an extra.

**(3) INCREASE IN CONTRACT TIME.** The provisions of this Section and Sections 3.7.12, 3.7.13, and 3.7.14 apply. In case of a continuing delay only one REA is necessary.

**4.2.6 RESOLUTION OF REA.**

**(1)** The Owner's Designated Representative shall attempt to resolve the issues of the Request for Equitable Adjustment with the Contractor. The Owner's Designated Representative may request a written analysis by the Consultant with a reasonable deadline. The Consultant shall comply with any such request.

**(2)** The Owner's Designated Representative shall provide a decision to the Contractor within 30 days unless such time period is extended by both the Contractor and Owner. Failure of the Owner's Designated Representative to provide the decision within thirty (30) days, shall be deemed a denial of the REA.

## **4.3 CLAIMS.**

### **4.3.1 TIME PERIOD FOR FILING CLAIM.**

**(1) IF REA IS FILED AND DENIED.** If an REA is denied by the Owner's Designated Representative in whole or in part, the Contractor may file a written claim with the Director of the Division of Facilities Construction Management, certified mail, return receipt requested, within twenty-one (21) days of such denial. Failure to so file a written claim within said period shall be considered a waiver of the right to pursue the claim.

**(2) WHEN REA PROCEDURE IS NOT USED.** If the Contractor chooses to not file an REA, and wishes to proceed to a claim directly, a claim must be filed within twenty (21) days after the Contractor first recognizes or should have recognized the condition giving rise to the claim, whichever occurs first. Failure to so file the claim within said period shall be considered a waiver of the right to pursue the claim at any later point. The claim shall be made by written notice sent certified mail, return receipt requested, to the owner's designated representative.

**4.3.2 CONTENT REQUIREMENTS.** All claims shall state the specific grounds relied upon and the specific relief requested. Detailed records supporting the Claim need not accompany the Claim, but must be maintained and made available, to the extent such records are customarily maintained and would be discoverable in a Utah court of law, within a reasonable time upon request.

**4.3.3 ONLY GENERAL CONTRACTOR MAY FILE.** Only a General Contractor shall have the right to file a Claim with the Owner. No subcontractor at any tier shall have the right to file a Claim with the Owner or maintain any claim on its own against the Owner. Any Subcontractor rights to equitable adjustment or a claim, may only be with the General Contractor.

**4.3.4 CONTINUING CONTRACT PERFORMANCE.** Pending final resolution of a Claim, unless otherwise agreed upon in writing, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

**4.3.5 PAYMENTS OF UNDISPUTED AMOUNTS.** Pending final resolution of a claim, the Owner shall pay the undisputed portion of the claim.

**4.3.6 SCHEDULING HEARING OR PANEL.** If unresolved by the Owner's Designated Representative within 21 days of filing the claim with the Director, the matter shall be scheduled for an informal hearing with the Director or the Director's designee. The Director may also elect to have a panel report to the Director on the Request for Equitable Adjustment. If such panel is used, the Claimant must cooperate with reasonable requests of the panel in providing relevant information and documents or said claim shall be considered waived.

**4.3.7 DIRECTOR (OR DESIGNEE) DECISION.** The Director or the Director's designee shall prepare and send to the parties, a written decision, certified mail, return receipt requested, no later than ninety (90) days from the date the Owner's Designated Representative received the claim by certified mail. This time period may be extended by a reasonable request from the Owner based upon additional time being needed to finalize expert reports and/or investigations.

**4.3.8 ASSESSMENT OF COSTS.** If the Claim is denied and determined to be made in bad faith or is frivolous, by the Director or the Director's designee, the Contractor may be assessed the costs, or a portion thereof, of such review including the fee of any experts, design professional, attorney and staff costs.

**4.4 APPEAL OF DIRECTOR (OR DESIGNEE'S) DECISION.** The claim may be further pursued with the Utah Procurement Appeals Board or the Third Judicial District Court in accordance with Utah law.

**4.5 MEDIATION.** Claims not resolved as hereinabove described and any and all other claims or disputes arising out of or related to this Contract, the parties' performance hereunder, or the parties' relationship as created by this Contract, shall be submitted to mediation prior to initiation of litigation. Mediation of any such other claim or dispute may be demanded by either party at any time upon written notice to the other party as herein provided. In furtherance of this Contract to mediate, the parties shall: (i) select a mutually-acceptable mediator; (ii) exchange discoverable documents which either reasonably believes to be relevant and material to the issue(s) in dispute and necessary to an effective mediation; (iii) engage and cooperate in such further discovery as they may agree or which the mediator suggests may be necessary to facilitate an effective mediation; (iv) exchange written position papers which state their position in the dispute and outline the subject matter and substance of the anticipated testimony of individuals having personal knowledge of the facts underlying the dispute, and; (v) mediate in good faith. In the event the parties are unable to agree upon a mediator, the mediator shall be appointed by a court of competent jurisdiction. Witness expenses shall be borne by the party producing the witness. Mediator fees and expenses shall be paid equally by the parties. The mediator shall have the same immunity as is available to federal district court judges.

## **ARTICLE 5. SUBCONTRACTORS.**

### **5.1 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK.**

#### **5.1.1 APPROVAL REQUIRED.**

(1) Listing of Subcontractors shall be as required by U.C.A. 63A-5-208 as amended and/or as stated in the Contract Documents, including but not limited to the "DFCM Subcontractors List Form".

(2) The Contractor shall not contract with a proposed person or entity to whom the Owner has made a reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

**5.1.2 BUSINESS AND LICENSING REQUIREMENTS.** All Subcontractors used by the Contractor shall comply with all applicable business and licensing requirements.

**5.1.3 SUBSEQUENT CHANGES.** After the lapse of twenty-four (24) hours from the bid opening, the Contractor may change its listed Subcontractors only in accordance with Rule R 23-1 and the Contract Documents and with written approval of the Director of the Division of Facilities Construction and Management.

**5.1.4 BONDING OF SUBCONTRACTORS.** Subcontractors as identified by Owner in the procurement documents, may be required to submit performance and payment bonds to cover the full extent of their portion of the Work. This provision does not in any way limit the right of the Contractor to have subcontractors at any tier be required to have a performance and/or payment bond.

### **5.2 SUBCONTRACTUAL RELATIONS.**

**5.2.1 COMPLY WITH CONTRACT DOCUMENTS.** By appropriate enforceable agreement, the Contractor shall require each Subcontractor to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes towards the Owner and Consultant.

**5.2.2 RIGHTS.** Each Subcontractor agreement shall preserve and protect the rights of the Owner and Consultant under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Subcontractor agreement, the benefit of all rights and remedies against the Contractor that the Contractor, by the Contract Documents, has against the Owner.

**5.2.3 SUB-SUBCONTRACTORS.** The Contractor shall require each Subcontractor to enter into similar agreements with its Subcontractors which complies with the requirements of Subparagraphs 5.2.1 and 5.2.2 hereinabove.

**5.2.4 DOCUMENT COPIES.** The Contractor shall make available to each proposed Subcontractor, prior to execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound. Subcontractors shall similarly make copies of applicable portions of the Contract Documents available to their respective proposed Subcontractors.

### **5.3 CONTINGENT ASSIGNMENT OF SUBCONTRACTS.**

**5.3.1 CONDITIONS FOR ASSIGNMENT TO OWNER.** Each subcontract agreement for a subcontractor at any tier for a portion of the Work is assigned by the Contractor to the Owner provided that the assignment is effective only after termination of the Contract by the Owner for cause pursuant to Paragraph 13.2 or stoppage of the Work by Owner pursuant to Paragraph 13.5, and only for those subcontract agreements which the Owner accepts by notifying the Subcontractor in writing. The subcontract shall be equitably adjusted to meet the new conditions of the work.

## **ARTICLE 6. CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

### **6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS.**

**6.1.1 IN GENERAL.** The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor has a compensable Claim due to such action by Owner, Contractor shall make such Claim in accordance with Article 4.

**6.1.2 COORDINATION AND REVISIONS.** The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the construction schedule and Contract Sum deemed necessary after a joint review and agreement by the Owner. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

### **6.2 MUTUAL RESPONSIBILITY.**

**6.2.1 CONTRACTOR COORDINATION.** The Contractor shall afford the Owner and separate contractor(s) a reasonable opportunity for delivery and storage of their materials and equipment and performance of their activities and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

**6.2.2 REPORTING PROBLEMS TO OWNER .** If part of the Contractor's Work depends on work by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Owner apparent defects in workmanship that would render it unsuitable for proper execution. Failure of the Contractor to make said report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects in workmanship not then reasonably discoverable.

**6.2.3 COSTS.** Costs caused by delays or by improperly timed activities or defective construction shall be borne by the responsible party in accordance with the Contract Documents.

**6.2.4 CONTRACTOR REMEDIAL WORK.** The Contractor shall promptly remedy damage caused by the Contractor to completed or partially completed Work or to property of the Owner or separate contractors and subcontractors as provided in Subparagraph 10.2.6.

## **ARTICLE 7. MODIFICATIONS.**

### **7.1 MODIFICATIONS.**

**7.1.1 IN GENERAL.** Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or Field Order, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

**7.1.2 BY WHOM ISSUED.** A Change Order or Construction Change Directive shall be issued by the Owner. A Field Order is issued by the Consultant or by the Owner.

**7.1.3 PERFORMANCE REQUIREMENTS.** Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or Field Order.

**7.1.4 ADJUSTING UNIT PRICES.** If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order or Construction Change Directive that application of such unit prices to quantities of Work proposed will cause a substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

### **7.2 CHANGE ORDERS.**

**7.2.1 ADJUSTING SUM.** If the Change Order provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- (1) mutual acceptance of a fixed sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- (2) unit prices stated in the Contract Documents or subsequently agreed upon;
- (3) cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee with the Contractor providing, in such form as the Consultant may prescribe, an itemized accounting with appropriate supporting data; or
- (4) as provided in Subparagraph 7.2.2 hereinbelow.

**7.2.2 OWNER RESOLUTION OF SUM AND STANDARDS.** If the Contractor and Owner do not agree on any of the above methods for adjustment of the Contract Sum, the adjustment shall

be determined on the basis of reasonable actual costs and savings as demonstrated by an itemized accounting with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Subparagraph shall be limited to the following:

(1) all direct and indirect costs of labor; including workers compensation insurance, social security and other federal and state payroll based taxes, and payroll based fringe benefits paid by Contractor so long as they are reasonable and no higher than that charged to other clients;

(2) costs of materials, on-site temporary facilities, supplies and equipment (except hand tools) required for or incorporated into the work;

(3) rental costs of machinery, equipment, tools (except hand tools), and on-site temporary facilities, whether rented from the Contractor or others;

(4) costs of permits and other fees, sales, use or similar taxes related to the Work;

(5) additional costs of field supervision and field office personnel directly attributable to the change; and

(6) overhead and profit by the following liquidated formula which is not a penalty but a reasonable calculation agreed upon at the time of execution of the Contractor's Agreement, and provided by formula herein due to the fact that the actual amount due for said overhead and profit cannot easily be ascertained at the time of such execution. The markups in 7.2.2(6)(a) and (b) are to cover the Contractor's additional payment and performance bond premiums, insurance premiums not specified under 7.2.2(1), home office overhead and profit. Overhead and profit includes, but is not limited to the Contractor's Project Manager and Cost Estimator. Each request for pricing shall stand on its own and not be combined with other requests for pricing in determining the allowed markup described below. A particular request for pricing shall include all items reasonably related together and determinable at the time of the request. If several unrelated requests for pricing are grouped together in a single Change Order, each request for pricing will be considered separately for purposes of calculating the markup under the following formula:

(a) A markup of 15% shall be applied to the cost of each individual change up to \$20,000 in cost, but in no case shall the markup be less than \$150;

(b) A markup of 10% shall be applied to the portion of the cost of each individual charge in excess of \$20,000;

(c) Subcontractors at any tier shall be entitled to markup their costs related to a Change Order with the same percentages as specified in 7.2.2(6)(a) and (b) above, except that the minimum markup shall be \$50 for any individual change.

**7.2.3 AGREEMENT; CHANGE ORDER ISSUED.** When the Owner and the Contractor agree on the adjustment in the Contract Time and/or Contract Sum, the agreed to adjustment shall be incorporated in an appropriate Change Order.

**7.2.4 DISAGREEMENTS; CLAIMS PROCESS STILL APPLIES; CONSTRUCTION CHANGE DIRECTIVE MAY BE ISSUED.** If there is no agreement with the adjustment in Contract Time and/or Contract Sum, then the disagreement is still subject to the Article 4 claims resolution process. A Construction Change Directive may be issued in the interim.

**7.2.5 CREDITS.** The amount of credit to be allowed by the Contractor to the Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Consultant.

### **7.3 CONSTRUCTION CHANGE DIRECTIVES.**

**7.3.1 WHEN USED.** A Construction Change Directive may be issued in the case of an immediate need for the Work to commence.

**7.3.2 PROCEED WITH WORK AND NOTIFY OWNER ABOUT ADJUSTMENT METHOD.** Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Owner of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time. Any disagreement is still subject to the requirements of the claims resolution process in Article 4 hereinabove.

**7.3.3 RESOLUTION OF CONSTRUCTION CHANGE DIRECTIVES.** Contractor and Owner shall use best efforts to promptly reach an agreement as to the impact of the Construction Change Directive on the Contract Sum and Contract Time and have such agreement reflected in a Change Order. If the Owner is not able to reach agreement with the Contractor, the Owner shall prepare a proposed Change Order which shall become effective as a Change Order 21 days after notification to the Contractor unless the Contractor files a claim under Article 4 before the expiration of the 21 days.

**7.3.4 INTERIM PAYMENTS BY OWNER.** Pending final determination of cost to the Owner, Owner shall pay any amount not disputed by the Owner of the estimated cost indicated on the Construction Change Directive as the Work under the Construction Change Directive progresses.

**7.4 FIELD ORDER.** The Consultant will have the authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly. If the Contractor wishes to contend that said minor change does involve an adjustment in the Contract Sum and/or Contract Time, the Contractor shall promptly notify the Owner of the Contractor's position regarding compensation and time. If such contention is not resolved with the Owner, the Contractor may file a Claim in accordance with Article 4.

## **ARTICLE 8. PAYMENTS AND COMPLETION.**

### **8.1 SCHEDULE OF VALUES.**

**8.1.1 SCHEDULE OF VALUES.** Before the first Application for Payment, the Contractor shall submit to the Consultant a schedule of values allocated to various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Consultant may require. This schedule, unless objected to by the Consultant, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Contractor shall not be entitled to payment until receipt and acceptance of the Schedule of Values.

**8.1.2 FORM.** The schedule of values shall be prepared in such a manner that each major item of the Work and each subcontracted item of the Work is shown as a separate line item on AIA Document G703, Application and Certification for Payment, Continuation Sheet, or other form acceptable to the Owner.

### **8.2 APPLICATIONS FOR PAYMENT.**

**8.2.1 IN GENERAL.** The Contractor shall submit to the Consultant an itemized Application for Payment for Work completed in accordance with the schedule of values and that reflects retainage as provided for in the Contractor's Agreement. Such application shall be notarized and supported by such data



substantiating the Contractor's right to payment as the Owner or Consultant may require. Said data may include, but is not limited to, copies of requisitions from Subcontractors.

(1) Such applications may include requests for payment pursuant to 7.3.4.

(2) Such applications may not include requests for payment of amounts the Contractor does not intend to pay to a Subcontractor because of a dispute or other reason.

**8.2.2 PAYMENT FOR MATERIAL AND EQUIPMENT.** Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner and Consultant, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include applicable insurance, storage and transportation to the site for such materials and equipment stored off the site. The Owner may require copies of invoices or other suitable documentation.

**8.2.3 WARRANTY OF TITLE.** The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time for payment. The Contractor further warrants that upon submittal of an Application for Payment, all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, or other persons or entities making a claim by reason of having provided labor, materials and/or equipment relating to the Work.

**8.2.4 HOLDBACK BY OWNER.** Notwithstanding anything to the contrary contained in the Contract Documents, the Owner may, as a result of the claims resolution process, withhold any payment to the Contractor hereunder if and for so long as the Contractor fails to perform any of its obligations hereunder or otherwise is in default under any of the Contract Documents.

### **8.3 CERTIFICATES FOR PAYMENT.**

**8.3.1 ISSUED BY CONSULTANT.** The Consultant shall within ten (10) days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Consultant determines due, or notify the Contractor and Owner in writing of the Consultant's reasons for withholding certification in whole or in part as provided in Subparagraph 8.4.1. If the Consultant fails to act within said ten (10) day period, the Contractor may file the Application for Payment directly with the Owner's Designated Representative and the Owner will thereafter have twenty (20) days from the date of the Owner's receipt to resolve the amount to be paid and to pay the undisputed amount. The accuracy of the Contractor's Applications for Payment shall be Contractor's responsibility, not Consultant's.

**8.3.2 CONSULTANT'S REPRESENTATIONS.** The Consultant's issuance of a Certificate for Payment shall constitute a representation to the Owner that to the best of the Consultant's knowledge, information and belief, based upon the Consultant's observations at the site, the data comprising the Application for Payment, and what is reasonably inferable from the observations and data, that the Work has progressed to the point indicated in the Application and that the quality of the work is in accordance with the Contract Documents. The foregoing representations are subject to minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the Consultant. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment shall not be a representation that the Consultant has (a) made exhaustive or continuous on-site

inspections to check the quality or quantity of the Work, (b) reviewed construction means, methods, techniques, sequences or procedures, (c) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, (d) ascertained how or for what purpose the Contractor used money previously paid on account of Contract Sum, or (e) any duty to make such inquiries.

#### **8.4 DECISIONS TO WITHHOLD CERTIFICATION.**

**8.4.1 WHEN WITHHELD.** The Consultant may decide not to certify payment and may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Consultant's judgment the representations to the Owner required in Subparagraph 8.3.2 above can not be made or under Subparagraph 8.2.4 above. If the Consultant is unable to certify payment in the amount of the Application, the Consultant shall notify the Contractor and Owner as provided in Subparagraph 8.3.1 above. If the Contractor and Consultant can not agree on a revised amount, the Consultant shall promptly issue a Certificate for Payment for the amount to which the Consultant makes such representations to the Owner. The Consultant may also decide not to certify payment or, because of subsequently discovered evidence or observations, may nullify the whole or part of a Certificate for Payment previously issued, to such extent as may be necessary in the Consultant's opinion to protect the Owner from loss because of:

- (1) defective Work not remedied;
- (2) third party claims filed or reasonable evidence indicating probable filing of such claims;
- (3) failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- (4) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- (5) damage to the Owner or another contractor;
- (6) reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- (7) failure to carry out the Work in accordance with the Contract Documents.

**8.4.2 CERTIFICATION ISSUED WHEN REASONS FOR WITHHOLDING REMOVED.** When the reasons stated in Subparagraph 8.4.1 for withholding certification are removed, certification will be made for such related amounts.

**8.4.3 CONTINUE WORK EVEN IF CONTRACTOR DISPUTES CONSULTANT'S DETERMINATION.** If the Contractor disputes any determination by the Consultant or the result of the claims resolution process with regard to any Certification of Payment, the Contractor nevertheless shall expeditiously continue to prosecute the Work.

**8.4.4 OWNER NOT IN BREACH.** The Owner shall not be deemed to be in breach of this Contract by reason of the withholding of any payment pursuant to any provision of the Contract Documents provided the Owner's action or such withholding is consistent with the results of the claims resolution process.

## **8.5 PROGRESS PAYMENTS.**

**8.5.1 IN GENERAL.** Except as provided in Paragraph 8.3.1, the Owner shall pay any undisputed amount within thirty (30) days of the date that the application for payment was submitted to the Consultant. In no event shall Owner be required to pay any disputed amount.

**8.5.2 CONTRACTOR AND SUBCONTRACTOR RESPONSIBILITY.** The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payment to its Subcontractors in a similar manner.

**8.5.3 INFORMATION FURNISHED BY CONSULTANT TO SUBCONTRACTOR.** The Consultant shall, on request, furnish to the Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Consultant and Owner on account of portions of the Work done by such Subcontractor.

**8.5.4 OWNER AND CONSULTANT NOT LIABLE.** Neither the Owner or Consultant shall have an obligation to pay, monitor or enforce the payment of money to a Subcontractor, except to the extent as may otherwise be required by law.

**8.5.5 CERTIFICATE, PAYMENT OR USE NOT ACCEPTANCE OF IMPROPER WORK.** A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work that is not in accordance with the Contract Documents.

**8.6 PAYMENT UPON SUBSTANTIAL COMPLETION.** Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Consultant, the Owner shall make payment, reflecting adjustment in retainage, if any, for such Work or portion thereof as provided in the Contract Documents. To the extent allowed by law, the Owner may retain up to 200% of the fair market value of the work that has not been completed in accordance with the Contract Documents.

## **8.7 PARTIAL OCCUPANCY OR USE.**

**8.7.1 IN GENERAL.** The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, and authorized by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is Substantially Complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of the warranties required by the Contract Documents. When the Contractor considers a portion to be substantially complete, the Contractor shall prepare and submit a list to the Consultant as previously provided for herein. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. Contractor shall have continuing responsibility to protect the site and the Work during such partial occupancy and shall be responsible for damage except to the extent caused solely by the Owner during such partial occupancy or use.

The stage of progress of the Work shall be determined by written agreement between the Owner and Contractor.

**8.7.2 INSPECTION.** Immediately prior to such partial occupancy or use, the Owner, Contractor and Consultant shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

**8.7.3 NOT CONSTITUTE ACCEPTANCE.** Except to the extent it is agreed upon in writing by the Owner, partial occupancy or use of a portion or portion of the Work shall not constitute acceptance of Work not complying with the requirement of the Contract Documents.

## **8.8 FINAL COMPLETION AND FINAL PAYMENT.**

**8.8.1 CERTIFICATE FOR PAYMENT.** The Consultant's final Certificate for Payment shall constitute a further representation that conditions listed in Subparagraph 8.8.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

**8.8.2 CONDITIONS FOR FINAL PAYMENT.** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Consultant the following to the extent required by the Owner:

- (1) an affidavit that payrolls, bills for material and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied;
- (2) a current or additional certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days prior written notice, by certified mail, return receipt requested, has been given to the Owner;
- (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents;
- (4) if requested by surety in a timely manner or by Owner, consent of surety, to final payment;
- (5) Receipt of Record Drawings, Specifications, Addenda, Change Orders and other Modifications maintained at the site; the warranties, instructions, operation and maintenance manuals, and training videos required to be furnished by the Contract Documents;
- (6) Other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Owner may require consent of Surety to the final payment. If such liens, claims, security interests or encumbrances remain unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees; and
- (7) A written statement demonstrating how the Contractor will distribute interest earned on retention to Subcontractors as required by Section 13.8.5, U.C.A.

**8.8.3 WAIVER OF CLAIMS: FINAL PAYMENT.** The making of final payment shall constitute a waiver of Claims by the Owner except those arising from:

- (1) liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;

- (2) failure of the Work to comply with the requirements of the Contract Documents;
- (3) terms of warranties required by the Contract Documents; or
- (4) the one-year warranty period and any corrected Work.

**8.8.4 DELAYS NOT CONTRACTOR'S FAULT.** If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, the Owner shall, upon application by the Contractor and certification by the Consultant, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims. Unless otherwise stated by the Owner in writing, the making of final payment shall constitute a waiver of claims by the Owner as provided in Subparagraph 8.8.3 of these General Conditions for that portion of that Work fully completed and accepted by the Owner.

**8.8.5 WAIVER BY ACCEPTING FINAL PAYMENT.** Acceptance of final payment by the Contractor or a Subcontractor shall constitute a waiver of Claims by that payee except those Claims previously made in writing and identified by that payee as unsettled at the time of final Application for Payment. Such waivers shall be in addition to the waiver described in Subparagraph 8.8.3 of these General Conditions.

## **ARTICLE 9. TESTS AND INSPECTIONS, SUBSTANTIAL AND FINAL COMPLETION, UNCOVERING, CORRECTION OF WORK AND WARRANTY PERIOD.**

### **9.1 TESTS AND INSPECTIONS.**

**9.1.1 IN GENERAL.** Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations, resolutions or orders of public authorities having jurisdiction shall be made at an appropriate time. Unless otherwise specifically set forth in the Contract Documents or agreed to by the Owner in writing, the Owner shall contract for such tests, inspections and approvals with an independent entity, or with the appropriate public authority, and the Owner shall bear all related costs of tests, inspections and approvals except as provided in 9.1.2 below. If any of the Work is required to be inspected or approved by the terms of the Contract Documents by any public authority, the Contractor shall, at least two working days prior to the time of the desired inspection, and following the procedures established by the Owner, request such inspection or approval to be performed. The Contractor shall give the Consultant timely notice of when and where tests and inspections are to be made so that the Consultant may observe such procedures.

**9.1.2 FAILURE OF AN INSPECTOR TO APPEAR.** Work shall not proceed without any required inspection and the associated authorization to proceed unless the following procedures and requirements have been met:

- (1) The inspection or approval was requested in a timely manner as provided in Subparagraph 9.1.1;
- (2) The Contractor received written confirmation by fax or other means that the inspection was scheduled;
- (3) The Contractor has contacted or attempted to contact the inspector to confirm that the inspector is unable to perform the inspection as scheduled;

(4) If the inspector has confirmed that it is unable to perform the inspection as scheduled or if the Contractor is unable to contact the inspector, the contractor shall attempt to contact the State Building Official or other authority having jurisdiction; and

(5) The Contractor has documented the condition of the work prior to being covered through photos or other means.

**9.1.3 NONCONFORMING WORK.** If such procedures for testing, inspection or approval under Subparagraphs 9.1.1 reveal failure of portions of the Work to comply with the requirements established by the Contract Documents, the Contractor shall bear all costs made necessary by such failure including those of repeated procedures and compensation for the Owner's expenses, including the cost of retesting for verification of compliance if necessary, until the Owner accepts the Work in question as complying with the requirements of the Contract Documents.

**9.1.4 CERTIFICATES.** Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Consultant.

**9.1.5 CONSULTANT OBSERVING.** If the Consultant is to observe tests, inspections or approvals required by the Contract Documents, the Consultant shall do so with reasonable promptness and, where practicable, at the normal place of testing.

**9.1.6 PROMPTNESS.** Tests, inspections and arrangements for approvals conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

## **9.2 INSPECTIONS: SUBSTANTIAL AND FINAL.**

**9.2.1 SUBSTANTIAL COMPLETION INSPECTION.** Prior to requesting a substantial completion inspection, the Contractor shall prepare a comprehensive initial punchlist, including unresolved items from prior inspections, for review by the Owner and Consultant to determine if the Project is ready for a substantial completion inspection. If the Owner determines that the initial punchlist indicates that the Project is not substantially complete, the initial punchlist will be returned to the Contractor with written comments. If the Owner determines that the initial punchlist indicates that the Project may be substantially complete, the Consultant shall promptly organize and perform a Substantial Completion inspection in the presence of the Owner and all appropriate authorities.

(1) If the Consultant reasonably determines that the initial punchlist prepared by the Contractor substantially understates the amount of the Work remaining to be completed and the Project is not substantially complete, the Consultant shall report this promptly to the Owner, and upon concurrence of the Owner, the Contractor will be assessed the costs of the inspection and punchlist preparation incurred by the Consultant and the Owner.

(2) When the Work or designated portion thereof is Substantially Complete, the Consultant shall prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion; shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the work and insurance; and shall fix the time within which the Contractor shall finish all items on the punchlist accompanying the Certificate. If there is a punchlist, the Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on the punchlist does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

(3) Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof except to the extent as provided otherwise in the Contract Documents or if such warranty is related to an item where the work is not

complete. Such warranty documents shall state the length of the warranty, which must comply with the Contract Documents.

(4) The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate.

(5) Except to the extent the Owner's designated representative otherwise approves in advance and in writing, the Contractor shall submit the following documents in order to achieve Substantial Completion: written warranties, guarantees, operation and maintenance manuals, and all complete as-built drawings. The Contractor must also provide or obtain any required approvals for occupancy. The Contractor is responsible for the warranty of all Work, whether performed by it or by its Subcontractors at any tier.

**9.2.2 FINAL COMPLETION INSPECTION.** Prior to requesting a final inspection, the Contractor shall verify all punchlist items are corrected/completed. Once all punchlist items are corrected/completed the Contractor shall notify the Owner and request a final inspection. The Owner shall notify the Consultant and perform a final inspection. Two final inspections may be allowed due to required weather changes required to complete some items. When all punchlist items are completed a final pay request will be provided by the Contractor, authorized by the Consultant and processed by the Owner.

### **9.3 UNCOVERING OF WORK.**

**9.3.1 UNCOVER UNINSPECTED WORK.** Except as provided in Subparagraph 9.3.3, if a portion of the Work is covered prior to an Inspector's approval to proceed, it must, be uncovered for the Inspector's inspection and be replaced at the Contractor's expense without change in the Contract Time.

**9.3.2 OBSERVATION PRIOR TO COVERING.** Except as provided in Subparagraph 9.3.3, if the Owner or the Consultant has requested in writing to observe conditions prior to any Work being covered or if such observation is specified in the Contract Documents, and the Work is covered without such observation, the Contractor shall be required to uncover and appropriately replace the Work at the Contractor's expense without change in the Contract Time. If the Contractor requests an inspection and the Owner or Consultant, including any inspector of each, does not appear, the Contractor shall immediately notify the Owner of such lack of appearance, but shall not cover the Work without such inspection.

**9.3.3 WHEN AN INSPECTOR FAILS TO APPEAR OR CONSULTANT OR OWNER DID NOT MAKE PRIOR REQUEST.** If work is performed by the Contractor without an inspection as provided in Subparagraph 9.1.2 or if a portion of the Work has been covered which the Consultant or Owner has not specifically requested to observe prior to its being covered or such observation is not specified by the Contract Documents, the Consultant or Owner may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement, shall, by appropriate Change Order, be charged to the Owner. If such Work is not in accordance with the Contract Documents, the Contractor shall pay such costs unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

### **9.4 CORRECTION OF WORK AND WARRANTY PERIOD.**

**9.4.1 CONTRACTOR CORRECT THE WORK.** The Contractor shall correct Work rejected by the Consultant, Inspector or Owner, or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear the costs of correcting such rejected Work, including additional testing and inspections and compensation for the Consultant's and Inspector's services and expenses made necessary thereby.

**9.4.2 WARRANTY AND CORRECTION AFTER SUBSTANTIAL COMPLETION.** If within one year after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established under Subparagraph 9.2.1 or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, including failure to perform for its intended purpose, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The period of one year shall be extended with respect to portions of the Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work. This obligation of the Contractor under this Subparagraph 9.4.2 shall be operative notwithstanding the acceptance of the Work under the Contract, the final certificate of payment, partial or total occupancy and/or termination of the Contract. The Owner shall give notice of observed defects with reasonable promptness, however, failure to give such notice shall not relieve the Contractor of its obligation to correct the Work at the cost that the Contractor would have incurred if the Owner did so report with reasonable promptness. All corrected Work shall be subject to a one-year warranty period the same in all respects as the original Work, except that such warranty period shall commence from the time of Substantial Completion of the corrected Work. This warranty period does not affect the Owner's right to pursue any available remedies against Contractor.

**9.4.3 REMOVAL OF WORK.**

- (1) The Contractor shall promptly remove from the premises all Work that the Owner and/or the Consultant determines as being in nonconformance with the Contract Documents, whether incorporated or not.
- (2) The Contractor shall promptly replace and re-execute the Work in accordance with the Contract Documents and without expense to the Owner.
- (3) The Contractor shall bear the expense of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or of other contractors destroyed or damaged by such removal or replacement.
- (4) If the Contractor does not remove such condemned Work within a reasonable time, fixed by written notice, the Owner may have the materials removed and stored at the expense of the Contractor.
- (5) If the Contractor does not correct the nonconforming Work within a reasonable time, fixed by written notice, the Owner may correct it in accordance with Paragraph 13.2.2 of these General Conditions.

**9.4.4 NOT LIMIT OTHER OBLIGATIONS.** Nothing contained in this Paragraph 9.4 shall be construed to establish a period of limitation with respect to other obligations which the Contractor may have under the Contract Documents. Establishment of the time period of one year as described in Paragraph 9.4.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

**9.5 ADDITIONAL WARRANTIES.**

**9.5.1 IN GENERAL.** In addition to any other provisions of this Article 9, the following warranties shall apply:



(1) The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new, except to the extent otherwise required or expressly permitted by the Contract Documents.

(2) The Contractor also warrants to the Owner that the Work will be free from defects not inherent in the quality required or permitted and that the Work will conform with the requirements of the Contract Documents. Work not conforming to said requirements, including substitutions not properly approved and authorized, may be considered defective at the Owner's option.

**9.5.2 EXCLUSION.** Unless due to the negligent or intentional act or omission of the Contractor or those under the Contractor's control, or as otherwise stated in the Contract Documents, the Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage.

**9.5.3 FURNISH EVIDENCE ON REQUEST.** If requested by the Consultant or Owner, the Contractor shall furnish satisfactory evidence as to the type and quality of materials and equipment.

**9.6 ACCEPTANCE OF NONCONFORMING WORK.** If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum shall be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

## **ARTICLE 10. PROTECTION OF PERSONS AND PROPERTY.**

### **10.1 SAFETY PRECAUTIONS AND PROGRAMS.**

**10.1.1 CONTRACTOR RESPONSIBILITY.** The Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

**10.1.2 HAZARDOUS MATERIALS.** In the event the Contractor encounters on the site material reasonably believed to be asbestos or polychlorinated biphenyl (PCB) or any other hazardous waste or substance which may endanger the health of those persons performing the Work or being on the site, which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner and Consultant by phone with a follow-up document in writing. The Work in the affected area shall be resumed in the absence of asbestos, polychlorinated biphenyl (PCB) or said hazardous waste or substance, or when it has been rendered harmless according to the Federal and State health standards. Except to the extent provided otherwise in the Contract Documents, the Contractor shall not be required to perform without consent, any Work relating to asbestos, polychlorinated biphenyl (PCB) or any other hazardous waste or substance.

### **10.2 SAFETY OF PERSONS AND PROPERTY.**

**10.2.1 CONTRACTOR RESPONSIBILITY.** The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to:

- (1) employees on the Work and other persons who may be affected thereby;
- (2) the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or a Subcontractor; and

(3) other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

**10.2.2 SAFETY PROGRAM, PRECAUTIONS.** The Contractor shall institute a safety program at the start of construction to minimize accidents. Said program shall continue to the final completion of the Project and conform to applicable laws and regulations including the Utah Occupational Safety and Health Rules and Regulations as published by the Utah Industrial Commission - UOSH Division. The Contractor shall post signs, erect barriers, and provide those items necessary to implement the safety program. As soon as the Contractor proceeds with the Work, the Contractor shall have all workers and all visitors on the site wear safety hard hats and obey all safety rules and regulations and statutes. The Contractor shall post a sign in a conspicuous location indicating the necessity of wearing hard hats and the Contractor shall loan such hats to visitors.

**10.2.3 COMPLIANCE WITH LAWS.** The Contractor shall give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss. In particular, the Contractor shall comply with all applicable provisions of Federal, Owner and municipal safety laws, rules and regulations as well as building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the Work is being performed.

**10.2.4 ERECT AND MAINTAIN SAFEGUARDS.** The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

**10.2.5 UTMOST CARE.** When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

**10.2.6 PROMPT REMEDY.** The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Subparagraph 10.2.1 of these General Conditions caused in whole or in part by the Contractor, a Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under said Subparagraph 10.2.1, except to the extent such damage or loss is directly due to errors in the Contract Documents or caused by agents or employees of the Consultant or Owner. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Paragraph 3.13 of these General Conditions.

**10.2.7 SAFETY DESIGNEE.** The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Consultant.

**10.2.8 LOAD SAFETY.** The Contractor shall not load or permit any part of the construction or site to be loaded so as to endanger its safety.

**10.2.9 OFF-SITE RESPONSIBILITY.** In addition to its other obligations under this Article 9, the Contractor shall, at its sole cost and expense, promptly repair any damage or disturbance to walls, utilities, streets, ways, sidewalks, curbs and the property of third parties (including municipalities and other governmental agencies) resulting from the performance of the Work, whether by it or by its Subcontractors at any tier. The Contractor shall not cause materials, including soil and debris, to be placed or left on streets or ways.

**10.3 EMERGENCIES.** In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Paragraph 4.3 and Article 7 of these General Conditions.

## **ARTICLE 11. INSURANCE AND BONDS.**

### **11.1 LIABILITY INSURANCE.**

**11.1.1 OCIP.** If required in the Supplementary General Conditions, the Contractor shall comply with the State of Utah's Owner Controlled Insurance Program (OCIP).

**11.1.2 IN GENERAL.** To protect against liability, loss and/or expense arising from damage to property or injury or death of any person or persons incurred in any way out of, in connection with or resulting from the Work provided hereunder, Contractor shall obtain and maintain in force during the entire period of this Contract without interruption, at its own expense, the following insurance from insurance companies authorized to do business in the State of Utah in a form and content satisfactory to the Owner and rated "A" or better with a financial size category of (a) Class X or larger where the Contract Sum is \$1,000,000 or greater or (b) Class VII or larger where the Contract Sum is under \$1,000,000. Said rating and financial size category shall be as published by A.M. Best Company at the time the Contract is executed.

(1) Workers' Compensation Insurance and Employers' Liability Insurance. Worker's Compensation Insurance shall cover full liability under the Worker's Compensation Laws of the jurisdiction in which the Project is located at the statutory limits required by said jurisdiction's laws. Employer's Liability Insurance shall provide the following limits of liability: \$100,000 for each accident; \$500,000 for Disease-Policy Limit; and \$100,000 for Disease-Each Employee. The Contractor shall require all Subcontractors to take and maintain similar policies of Workers' Compensation Insurance.

(2) Commercial General Liability Insurance and/or Comprehensive General Liability Insurance, including coverage for premises/operations, explosion, collapse and underground hazards, products/completed operations, contractual (including this Contract), and personal injury, including employees, with limits of not less than \$1,000,000 each occurrence, and not less than \$2,000,000 general aggregate and \$2,000,000 products/completed operations aggregate. Aggregate limit shall be designated as applying to this Contract. If this insurance coverage is written on a "claims-made" basis, the certificate of insurance required below shall so indicate and the policy shall contain an extended reporting period provision or similar "tail" provision such that claims reported up to three (3) years beyond the date of Substantial Completion of this Contract are covered. Such Commercial General Liability Insurance must provide coverage for explosion, collapse and underground hazards. Said certificate shall state that the policy required by this paragraph has been endorsed to name the State of Utah and DFCM as Additional Insureds.

(3) Comprehensive Automobile Liability Insurance including owned, hired and non-owned automobiles with limits not less than \$1,000,000 any one accident or loss.

(4) Aircraft Use. Contractor using its own aircraft, or employing aircraft in connection with the Work performed under this Agreement shall maintain Aircraft Liability Insurance with a combined single limit of not less than \$1,000,000 per occurrence. Said certificate shall state that the policy required by this paragraph has been endorsed to name the State of Utah and DFCM as Additional Insureds.

(5) Owners Protective Liability Insurance with limits of not less than \$1,000,000 shall be purchased and maintained by Contractor. The State of Utah and all institutions, agencies, departments,

authorities and instrumentalities, and while acting within the scope of their duties, all of its elected or appointed officers, agents, employees and authorized volunteers as well as members of governing bodies, boards, commissions and advisory committees, shall be named as insureds, but, only in respect to the Work to be performed under this Contract.

**11.1.3 CONFIGURATIONS.** Any policy required by this section may be arranged under a single policy for the full limit required, or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability Policy.

**11.1.4 CONTRACTOR LIABILITY.** Irrespective of the requirements as to insurance to be carried by Contractor as provided herein; insolvency, bankruptcy or failure of any insurance company to pay all claims accruing, shall not be held to relieve Contractor of any obligations hereunder.

**11.1.5 CERTIFICATE, NOTICE REQUIREMENTS, ADDITIONAL INSURED.** Before the Contract Agreement is executed, certificates evidencing coverages as specified above are in effect, shall be furnished to the Owner. Such insurance certificates shall contain provisions that no cancellation, material change therein or non-renewal shall become effective except upon thirty (30) days prior written notice to the Owner as evidenced by return receipt, certified mail sent to Owner. The Contractor shall notify the Owner within thirty (30) days of any claim(s) against the Contractor, and if such claim(s) exceed 20% of the applicable required insured limits, the Owner may require the Contractor to re-instate the policy to provide full protection at the original limits. For any risk not covered by the Owner's protective liability insurance policy or the worker's compensation policies, the State of Utah shall be named as an additional insured party, as primary coverage and not contributing.

**11.1.6 DEDUCTIBLE LIABILITY.** Any and all deductibles in the above described policies shall be assumed by, for the account of, and at sole risk of Contractor.

**11.1.7 ALTERNATIVE COVERAGE.** The Owner's Risk Manager may approve alternative forms of insurance to those stated above based on a finding of reasonable unavailability.

Any type of insurance or any increase of limits of liability not described in this Agreement which the Contractor requires for its own protection or on account of any statute, rule or regulation, shall be its own responsibility and at its own expense.

The carrying of any insurance required by this Agreement shall in no way be interpreted as relieving the Contractor or Subcontractors of any other responsibility or liability under this Agreement or any applicable law, statute, rule, regulation or order.

Contractor shall not violate or knowingly permit to be violated any of the provisions of the policies on insurance required under these General Conditions.

## **11.2 "BUILDER'S RISK" PROPERTY INSURANCE.**

**11.2.1 IN GENERAL.** Owner shall provide "Builder's Risk" property insurance to protect Owner, as well as all Contractors and Subcontractors, and include them as insureds, with respect to Work performed hereunder at Owner's own cost and expense, according to the policies and forms currently in force with insurance carriers selected by Owner's Risk Manager or issued by the Owner Risk Management Fund. Owner's Risk Manager shall furnish, upon request, all parties in interest with copies of said policies authenticated by authorized agents of the insurers or the Owner Risk Management Fund.

**11.2.2 INSPECTIONS, RECOMMENDATIONS.** Owner, the Division of Risk Management and the Builder's Risk insurers shall have the right to inspect the Work. The Contractor shall comply with reasonable risk control recommendations made by insurers or the Division of Risk Management. Such

inspections or recommendations do not relieve the Contractor of any of its responsibilities under the Contract Documents.

**11.2.3 DEDUCTIBLE.** The above described "Builders Risk" policies shall be subject to a total deductible of \$5,000 per loss occurrence, which shall be assumed by all Contractors or Subcontractors, in proportion to their share of the total amount of an insured loss occurrence.

**11.2.4 ADJUSTED WITH AND PAYABLE TO RISK MANAGER AS TRUSTEE.** Any insured property loss is to be adjusted with the Owner's Risk Manager, and made payable to the Owner's Risk Manager as trustee for the Contractor and Subcontractors, as their interests may appear, subject to the requirements of any applicable loss payable clause.

**11.2.5 WAIVER.** Contractor, including all Subcontractors, and Owner hereby waive all rights against each other for damages caused by perils insured against under the "Builder's Risk" insurance provided by Owner, except such rights as Contractor may have to the proceeds of such insurance held by the Owner's Risk Manager as trustee. The Owner and the Contractor each shall require similar waivers from their contractors, subcontractors, subconsultants and agents, at any tier.

**11.2.6 SPECIAL HAZARDS.** Owner shall bear the risk of loss, delay and/or damage due to earthquake and/or flood and may either insure or self-insure that risk. If the Contractor requests in writing that insurance for other special hazards be included in the "Builder's Risk" policy, the Owner's Risk Manager shall, if possible, include such insurance in the policy and the cost thereof shall be charged to the Contractor by Change Order.

**11.3 PERFORMANCE BOND AND PAYMENT BOND.** The Contractor shall submit and maintain in full force and effect as required by law and the Contract Documents, at its own expense, on forms provided by the Division of Facilities Construction and Management, and include as part of the quoted total all costs involved in securing and furnishing, the bonds listed below, based on the completed cost of the Contract and effective upon execution of the Contract. Said bonds shall be from surety companies which are authorized to do business in the State of Utah, listed in the U. S. Department of Treasury Circular 570, Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies, and acting within the limitation listed therein.

11.3.1 A full 100 percent performance bond covering the faithful execution of the Contract in accordance with the Contract Documents; and

11.3.2 A full 100 percent payment bond covering payment of all obligations arising under the Contract Documents, for the protection of each person supplying labor, service, equipment, or material for the performance of the Work.

## **ARTICLE 12. MISCELLANEOUS PROVISIONS.**

**12.1 CONSULTANT'S RESPONSIBILITIES.** These General Conditions are not intended to provide an exhaustive or complete list of the Consultant's responsibilities. A separate agreement between the Owner and Consultant incorporates these General Conditions by reference.

**12.2 SUCCESSORS AND ASSIGNS.** The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract without the prior written consent of the Owner, nor shall the Contractor assign any amount due or to become due as well as any rights under the Contract, without prior written consent of the Owner.

### **12.3 WRITTEN NOTICE.**

**12.3.1 PERSONAL DELIVERY AND REGISTERED OR CERTIFIED MAIL.** Written notice shall be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an officer of the corporation for which it was intended, or if delivered at or sent by registered or certified mail, return receipt requested, to the last business address known to the party giving notice.

**12.3.2 FAX.** Notwithstanding any other provision of these General Conditions, written notice shall also be deemed to have been duly served by verified use of a FAX system by using the known and operative calling number. Service by use of the FAX system is encouraged when timely notice will benefit the Owner, Consultant or Contractor. Notice shall be considered complete and verified upon the sending and confirmation of delivery using the FAX system, if on the same day notice is also sent by registered or certified mail, return receipt requested, to the last business address known to the party giving notice, confirming the FAX delivery.

### **12.4 RIGHTS AND REMEDIES.**

**12.4.1 NOT LIMIT.** Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

**12.4.2 NOT WAIVER.** Except as expressly provided elsewhere in the Contract Documents, no action or failure to act by the Owner, Consultant or Contractor shall constitute a waiver of a right or duty afforded them under the Contract Documents, nor shall such action or failure to act constitute approval or acquiescence in a breach thereunder, except as any of the above may be specifically agreed to in writing. In no case shall the Contractor or any Subcontractors be entitled to rely upon any waiver of any of these General Conditions unless agreed to in writing by the Owner.

### **12.5 COMMENCEMENT OF STATUTORY LIMITATION PERIOD.**

**12.5.1 BEFORE SUBSTANTIAL COMPLETION.** Except as provided in 12.5.4 below, as to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion.

**12.5.2 BETWEEN SUBSTANTIAL COMPLETION AND FINAL CERTIFICATION FOR PAYMENT.** Except as provided in 12.5.4 below, as to acts or failures to act occurring subsequent to the relevant date of Substantial Completion and prior to issuance of the final Certification for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of issuance of the final Certification for Payment.

**12.5.3 AFTER FINAL CERTIFICATION FOR PAYMENT.** Except as provided in 12.5.4 below, as to acts or failures to act occurring after the relevant date of issuance of the final Certificate for Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of any act or failure to act by the Contractor pursuant to any warranty provided under Article 9 the date of any correction of the Work or failure to correct the Work by the Contractor under 9.4.2, or the date of actual commission of any other act or failure to perform any duty or obligation by the Contractor or Owner, whichever occurs last.

**12.5.4 EXCEPTION.** Notwithstanding any other provision of this Paragraph 12.5 to the contrary, no applicable statute of limitations shall be deemed to have commenced with respect to any portion of the Work which is not in accordance with the requirements of the Contract Documents, which would not be visible or apparent upon conducting a reasonable investigation, and which is not discovered

by the Owner until after the date which, but for this Subparagraph 12.5.4, would be the date of commencement of the applicable statute of limitations; the applicable statute of limitations instead shall be deemed to have commenced on the date of such discovery by the Owner.

**12.6 NOT DISCRIMINATE, NO SEXUAL HARASSMENT.** Pursuant to the laws of the State of Utah, the Contractor, Subcontractors, or anyone for whose act any of them may be liable, will take affirmative action to not discriminate against any employee or applicant for employment because of race, creed, color, sex, religion, ancestry or national origin. To the extent applicable, said persons will comply with all provisions of Executive Order No. 11246 dated September 24, 1965 and rules, regulations, orders, instructions, designations and other directives promulgated pursuant thereto. Contractor, Subcontractors, or anyone for whose act any of them may be liable, shall not act in any manner as would violate the laws, regulations and policies of the United States or the State of Utah prohibiting sexual harassment.

**12.7 APPLICABLE LAWS.** The applicable laws and regulations of the State of Utah, as well as any applicable local laws and regulations not superceded by State law, shall govern the execution of the Work embodied in the Contract Documents as well as the interpretation of the Contract Documents.

**12.8 CAPITALIZATION.** Terms capitalized in these General Conditions include those which are (1) specifically defined, (2) the title of numbered articles and identified references to Paragraphs, Subparagraphs and Clauses in the document or (3) the titles of referenced documents published by the American Institute of Architects and other organizations.

**12.9 INTERPRETATION.** In the interest of brevity, the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an”, but the fact that a modification or an article is absent from the statement and appears in another is not intended to affect the interpretation of either statement.

**12.10 VENUE.** In case of any dispute, which may arise under the Contract Documents, the place of venue shall be in the County of Salt Lake, Utah, unless otherwise agreed to by all the parties in writing.

**12.11 SEPARABILITY.** The invalidity of any part, paragraph, subparagraph, phase, provision or aspect of the Contract documents shall not impair or affect in any manner the validity, enforceability or effect of the remainder of the Contract Documents.

**12.12 CONSTRUCTION OF WORDS.** Unless otherwise stated in the Contract Documents, words, which have well-known technical or construction industry meanings, shall be construed as having such recognized meanings. Unless the context requires otherwise, all other technical words shall be construed in accordance with the meaning normally established by the particular, applicable profession or industry. All other words, unless the context requires otherwise, shall be construed with an ordinary, plain meaning.

**12.13 NO THIRD PARTY RIGHTS.** These General Conditions create rights and duties only as between Subcontractors, Owner and Contractor, and Owner and Consultant. Nothing contained herein shall be deemed as creating third party beneficiary contract rights or other actionable rights or duties as between Contractor and Consultant, or as between Owner, Contractor, or Consultant on the one hand, and any other person or entity.

## **ARTICLE 13. TERMINATION OR SUSPENSION OF THE CONTRACT.**

### **13.1 TERMINATION BY CONTRACTOR.**

**13.1.1 IN GENERAL.** If the Work is stopped for a period of sixty (60) days through no act or fault of the Contractor or a Subcontractor, or their agents or employees or any other persons performing

portions of the Work under contract with any of the above, the Contractor, may terminate the Contract in accordance with 13.1.2 hereinbelow for any of the following reasons:

- (1) because the Owner has persistently failed to fulfill fundamental Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work;
- (2) issuance of an order of a court or other public authority having jurisdiction, except that where the Contractor has standing, the Contractor must cooperate in efforts to stay and/or appeal such order;
- (3) an act of government, such as a declaration of national emergency, making material unavailable; or
- (4) unavoidable casualties or other similar causes as listed in Subparagraph 13.2.2(2) hereinbelow.

**13.1.2 NOTICE.** If one of the reasons for termination in 13.1.1 hereinabove exist, the Contractor may, upon ten (10) additional days' written notice to the Owner and Consultant, and such condition giving cause for termination still not cured, terminate the Contract and recover from the Owner payment for Work executed and for proven loss with respect to materials, equipment, tools, and construction equipment and machinery, including reasonable overhead, profit and damages.

## **13.2 TERMINATION BY THE OWNER FOR CAUSE.**

**13.2.1 IN GENERAL.** The Owner may terminate the Contract if the Contractor fails to cure any of the following within a period of ten (10) days (or longer if the Owner so approves in writing) after receipt of notice from the Owner specifying the cause for termination:

- (1) The Contractor persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- (2) The Contractor fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- (3) The Contractor persistently disregards laws, ordinances, or rules, regulations, resolutions or orders of a public authority having jurisdiction; or
- (4) The Contractor fails to perform the Work within the time specified in the Contract Documents or any authorized extension thereof or the Contractor fails to make progress with the Work as to endanger such compliance;
- (5) The Contractor fails to perform the Work in accordance with the Contract Documents;
- (6) The Contractor fails to respond promptly to the financial responsibility inquiry under the Contractor's Agreement;
- (7) As permissible by law for a reason to terminate, the Contractor is adjudged bankrupt;
- (8) As permissible by law for a reason to terminate, the Contractor should make a general assignment for the benefit to creditors;



(9) As permissible by law for a reason to terminate, the Contractor should have a receiver appointed on account of the Contractor's insolvency; or

(10) The Contractor is in breach of a material provision of the Contract Documents.

### **13.2.2 OWNER'S RIGHT TO CARRY OUT THE WORK.**

(1) If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten (10) day period (or longer if approved by the Owner in writing) after receipt of written notice from the Owner to cure such default or neglect, the Owner may without prejudice to other remedies the Owner may have, correct such deficiencies, including taking over the Work and prosecuting the same to completion, by contract or otherwise, and may take possession of, and utilize in completing the Work, such materials, appliances and plant as may be on the site of the Work and necessary for its proper completion. In such case, the Owner shall offset from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Consultant, Owner's staff and legal counsel's additional services and expenses made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. The Contractor shall continue performance of the Contract to the extent not terminated.

(2) Except with respect to defaults of Subcontractors, the Contractor shall not be liable for any excess costs if the failure to perform the Contract arises out of causes beyond the control and without the fault or negligence of the Contractor or anyone for whom the Contractor may be liable. Such causes may include, but are not limited to, acts of God or of the public enemy, acts of the Owner or federal government in either their sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the failure to perform must be beyond the control and without the fault or negligence of the Contractor or anyone for whom the Contractor may be liable. If the failure to perform is caused by the default of a Subcontractor, and if such default arises out of causes beyond the control of both the Contractor and the Subcontractor, and without the fault or negligence of either of them or anyone for whom either may be liable, the Contractor shall not be liable for any excess costs for failure to perform unless the supplies or services to be furnished by the Subcontractor were obtainable from other sources in sufficient time to permit the Contractor to meet the required delivery or completion schedule.

**13.2.3 ITEMS REQUIRED TO BE TRANSFERRED OR DELIVERED.** The Owner may require the Contractor to transfer title and deliver to the Owner, in the manner and to the extent directed by the Owner:

(1) Any completed portion of the Work; and

(2) Any partially completed portion of the Work and any parts, tools, dies, jigs, fixtures, drawings, information, and contract rights (hereinafter called "construction materials") as the Contractor has specifically produced or specifically acquired for the performance of such part of this Contract as has been terminated; and the Contractor shall, upon direction of the Owner, protect and preserve property in the possession of the Contractor in which the Owner has an interest.

**13.2.4 PAYMENT.** When the Owner terminates the Contract for one or more of the reasons stated in Subparagraph 13.2.1, the Owner may withhold payment and/or pursue all available remedies.

**13.2.5 OWNER PROTECTION IF LIENABLE.** When the subject property is lienable, the Owner may withhold from amounts otherwise due the Contractor for such completed Work or construction materials such sum as the Owner determines to be necessary to protect the Owner against loss because of outstanding liens or claims for former lien holders.

**13.2.6 CREDITS AND DEFICITS.** If the unpaid balance of the Contract Sum exceeds the full cost of finishing the Work, including compensation for the Consultant's services and expenses made necessary thereby, such excess shall be paid to the Contractor. If such cost exceeds the unpaid balance, the Contractor shall pay the difference to the Owner obligation for payment shall survive the termination of the Contract.

**13.2.7 IF CONTRACTOR FOUND NOT IN DEFAULT OR EXCUSABLE.** If, after notice of termination of the Contract under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, or that the default was excusable under the provisions of this clause, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the termination for convenience provisions.

**13.2.8 RIGHTS AND REMEDIES NOT EXCLUSIVE.** The rights and remedies of the Owner provided in this Paragraph 13.2 shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

### **13.3 SUSPENSION, DELAY OR INTERRUPTION OF WORK BY THE OWNER FOR CONVENIENCE.**

**13.3.1 BY OWNER IN WRITING.** The Owner may in writing and without cause, order the Contractor to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine to be appropriate for the convenience of the Owner.

**13.3.2 TIME PERIOD FOR CLAIMS.** Any Claim by the Contractor for adjustment under this Paragraph 13.3 must be asserted by the Contractor, in writing, within twenty-one (21) days from the date of termination of such suspension, delay or interruption; provided that the Owner may, in its sole discretion, receive and act upon any such Claim asserted at any time prior to final payment under this Contract.

**13.3.3 ADJUSTMENTS.** Any adjustment in Contract Sum and Time shall be in accordance with Articles 3, 4, and 7.

### **13.4 TERMINATION FOR CONVENIENCE OF THE OWNER.**

**13.4.1 IN GENERAL.** The performance of Work under this Contract may be terminated by the Owner in accordance with this Paragraph 13.4 in whole, or from time to time, in part, whenever the Owner shall determine that such termination is in the best interest of the Owner or any person for whom the Owner is acting under this Contract. Any such termination shall be effected by delivery to the Contractor of a notice of termination specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination becomes effective.

**13.4.2 CONTRACTOR OBLIGATIONS.** After receipt of a notice of termination, and except as otherwise directed by the Owner in writing, the Contractor shall:

- (1) Stop work under the Contract on the date and to the extent specified in the notice of termination;
- (2) Place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of such portion of the Work under the Contract as is not terminated;
- (3) Terminate all orders and subcontracts to the extent that they relate to performance of Work terminated by the notice of termination;

(4) Assign to the Owner in the manner, at the times, and to the extent directed by the Owner, all of the right, title and interest of the Contractor under the orders and subcontracts so terminated, in which case the Owner shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

(5) Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Owner, which approval or ratification shall be final for all the purposes of this Paragraph 13.4;

(6) Transfer title and deliver to the Owner in the manner, at the times, and to the extent, if any, directed by the Owner:

(a) The fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of the Work terminated by the notice of termination; and

(b) The completed or partially completed drawings, information, and other property which, if the Contract had been completed, would have been required to be furnished to the Owner;

(7) Use best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Owner, any property of the types referred to in Subparagraph 13.4.2(6) above; provided, however, that the Contractor:

(a) Shall not be required to extend credit to any purchaser; and

(b) May acquire any such property under the conditions prescribed by and at a price or prices approved by the Owner; and provided further that the proceeds of any such transfer of or disposition shall be applied in reduction of any payments to be made by the Owner to the Contractor under this Contract or shall otherwise be credited to the price or cost of the Work covered by this Contract or paid in such other manner as the Owner may direct;

(8) Complete performance of such part of the Work as shall not have been terminated by the notice of termination; and

(9) Take such action as may be necessary, or as the Owner may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor in which the Owner has or may acquire an interest.

**13.4.3 TERMINATION CLAIM.** After receipt of a notice of termination, the Contractor shall submit to the Owner a termination claim, in the form and with certification prescribed by the Owner. Such claim shall be submitted promptly but in no event not later than sixty (60) days from the effective date of termination.

**13.4.4 AGREED UPON PAYMENT.** Subject to the provisions of Paragraph 13.4.3 above, the Contractor and the Owner may agree upon the amount to be paid to the Contractor by reason of the total or partial termination of Work pursuant to this Paragraph 13.4.

**13.4.5 PAYMENT NOT AGREED UPON.** In the event of the failure of the Contractor and the Owner to agree, as provided in Subparagraph 13.4.4, upon the whole amount to be paid to the Contractor by reason of the termination of Work pursuant to this Paragraph 13.4, the Owner shall pay to the Contractor the amounts determined by the Owner as follows, but without duplication of any amounts agreed upon in accordance with Subparagraph 13.4.4:

(1) With respect to all Contract Work performed prior to effective date of the notice of termination, the total (without duplication of any items) of:

(a) The cost of such Work including undisputed Claim amounts;

(b) The cost of terminating, settling and paying claims arising out of the termination of Work under subcontracts or orders as provided in Subparagraph 13.4.2(5) above, exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by Subcontractors prior to the effective date of the notice of termination under this Contract, which amounts shall be included in the cost on account of which payment is made under 13.4.5(1)(a) above;

(c) A sum, as overhead and profit on 13.4.5(1)(a) above, determined by the Owner to be fair and reasonable;

(d) The reasonable cost of the preservation and protection of property incurred pursuant to Paragraph 13.4.2(9); and any other reasonable cost incidental to termination of Work under this Contract, including expenses incidental to the determination of the amount due to the Contractor as the result of the termination of Work under this Contract.

(2) The total sum to be paid to the Contractor under 13.4.5(1) above shall not exceed the total Contract Sum as reduced by the amount of payments otherwise made and as further reduced by the Contract price of work not terminated. Except for normal spoilage, and except to the extent that the Owner shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor under 13.4.5(1) above, the fair value of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Owner, or to a buyer pursuant to Subparagraph 13.4.2(7).

**13.4.6 DEDUCTIONS.** In arriving at the amount due the Contractor under this Paragraph 13.4, there shall be deducted:

(1) All unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this Contract;

(2) Any Claim which the Owner may have against the Contractor in connection with this Contract; and

(3) The agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold, pursuant to the provisions of this clause, and not otherwise recovered by or credited to the Owner.

**13.4.7 PARTIAL TERMINATION.** If the termination hereunder be partial, the Contractor may file with the Owner a Claim for an equitable adjustment of the amounts specified in the Contract relating to the continued portion of the Contract and such equitable adjustment as may be agreed upon shall be made in such amounts. Any Claim by the Contractor for an equitable adjustment under this Subparagraph 13.4.7 must be filed within sixty (60) days from the effective date of the notice of termination.

**13.4.8 PARTIAL PAYMENTS.** The Owner may, from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this Contract whenever, in the opinion of the Owner the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this Paragraph 14.4, such excess shall be payable by the Contractor to the Owner upon demand, together with interest at a rate equal to the average rate at the time being received from the investment of state funds, as determined by the State Treasurer, for the period until the date such excess is repaid to the Owner; provided, however, that no interest shall be charged with respect to any such excess payment

attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten (10) days after the date of such retention or disposition, or such later date as determined by the Owner by reason of the circumstances.

**13.4.9 PRESERVE AND MAKE AVAILABLE RECORDS.** Unless otherwise provided for in this Contract, or by applicable statute, the Contractor shall, from the effective date of termination until the expiration of three years after final settlement under this Contract, preserve and make available to the Owner at all reasonable times at the office of the Contractor, but without direct charge to the Owner, all books, records, documents and other evidence bearing on the costs and expenses of the Contractor under this Contract and relating to the Work terminated hereunder, or, to the extent approved by the Contracting officer, photographs, micrographs, or other authentic reproductions thereof.

**13.5 OWNERS RIGHT TO STOP THE WORK.** If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Paragraph 9.4 or fails to carry out Work in accordance with the Contract Documents, the Owner, by written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

State of Utah

Department of Administrative Services

**Division of Facilities Construction & Management**

**4110 State Office Building**

**Salt Lake City, Utah 84114**

**OWNER CONTROLLED INSURANCE PROGRAM  
FOR  
CONTRACTORS & SUBCONTRACTORS**

**OCIP**

**March 20, 2002**

**Supplemental General Conditions For**  
**OWNER CONTROLLED INSURANCE PROGRAM (OCIP)**

1. The Division of Facilities, Construction & Management (DFCM) has implemented an Owner Controlled Insurance Program (OCIP). Awarded Contractor is responsible for enrollment and compliance with all OCIP requirements for itself and all Subcontractors of all tiers. Subcontractors, whenever referred to in these documents, shall include all Consultants and Subconsultants to the Contractor. The OCIP requirements are not intended to create any contract between the Subcontractors and the Owner. The Contractor shall assist with the enforcement of any OCIP provisions that relate to Subcontractors. The OCIP will minimally provide workers' compensation, employer's liability, general liability, contractors pollution liability, railroad protective (as required), and excess liability for all eligible Contractors of every tier enrolled in the OCIP and performing work at the project site. The OCIP will also include professional errors and omissions liability for architects and engineers. DFCM agrees to pay all premiums associated with the OCIP including deductibles or self-insured retentions unless otherwise stated in the contract document.

**Awarded Contractor and eligible Subcontractors of all tiers will not be allowed to work without enrolling in the OCIP.**

1.1 Carriers in Program.

Workers Compensation, Employers Liability, General Liability: **Argonaut**  
Contractor Pollution Liability: **ECS Greenwich**  
Professional Architects and Engineers Errors and Omissions: **DPIC**  
Excess Coverage: **AIG and Cigna**  
Railroad Protective: **London**

- 1.2 The **"Builder's Risk" Property Insurance** is not affected by the OCIP Program. The Builder's Risk Insurance will continue as provided in Paragraph 11.2 in the General Conditions and is not affected by this supplemental general conditions. As noted therein, the premium for the Builder's Risk Insurance is paid directly by the Owner.

2. No insurance coverage provided by DFCM under the OCIP shall extend to the activities or products of suppliers, materialmen, vendors, haulers, truckers and "owner/operators", whose employee(s) perform no on-site work or are engaged solely in the loading, unloading, stocking, testing or hauling of equipment, supplies or materials. Such persons shall be required to provide their own insurance. Ineligible and eligible Contractors shall be required to maintain their own insurance of the types and with the limits as set forth in paragraph 16 with such coverage recognizing DFCM's project sites, at their own expense, and shall promptly furnish DFCM, or its designated Administrator (Willis of Utah), certificates of insurance giving evidence that all required insurance is in force.
3. Awarded Contractor shall enroll in the OCIP by completing the attached OCIP Enrollment Form and submitting it along with their General Liability and Workers' Compensation policy information to the OCIP Administrator (Willis of Utah) by the time it returns the executed contract to DFCM or prior to commencement of any work, whichever occurs first. The Contractor shall require that each of its Subcontractors of every tier enroll in the OCIP by submitting the OCIP Enrollment Form to the OCIP Administrator (Willis of Utah) prior to the Subcontractor entering the project site. By completing and submitting this insurance information, including supporting documents to DFCM or appointed Administrator (Willis of Utah), Contractor warrants that all insurance information is correct. (See Paragraph 14.1.7)

4. **An Initial Deductive Change Order (IDCO) of 1.5% of contract value will be processed to transfer the insurance cost into the project insurance program.** During the term of the Project, including extended periods thereof, DFCM shall have the right to recover all costs for the Contractor's insurance as described in paragraphs 5 and 6. DFCM shall have the right to recover these additional costs through deductive change orders.
5. It is understood and agreed that the **1.5% Initial Deductive Change Order (IDCO)** is an estimate only. The final insurance costs for Workers' Compensation and General Liability will be subject to review and audit of actual contractor/s insurance policy(ies) rate information submitted at the time of enrollment, actual payrolls and revenues for the initial award plus change orders to the original scope of work. DFCM's contract award will be based on the bid amount of work which is deemed to include the insurance costs that would have been incurred by the Contractor and its Subcontractors if DFCM did not provide an OCIP. The cost of the other OCIP coverages will be provided by the State.
6. An auditor or auditors from the insurance companies providing OCIP coverage will perform a payroll and contract revenue audit of each Contractor within 45 days of receipt by its OCIP Administrator (Willis of Utah) of Notice of Substantial Completion Form. **If an eligible Contractor and/or subcontractor fails to provide all required OCIP enrollment documents (see Paragraph 14.1.7) or prevents, by any means, the auditor from performing a payroll and contract amount audit, DFCM will process a Final Deductive Change Order (FDCO) of 3% of that specific contract value, rather than costs as outlined in Paragraph 5, into the project insurance program.**
7. Awarded Contractor and Subcontractors of all tiers shall provide OCIP Enrollment Form along with a copy of the declaration page(s) and premium development page(s) for each applicable policy as requested therein, to DFCM or its Administrator (Willis of Utah) before the applicable work commences. Contractor shall provide all necessary information for DFCM or its appointed Administrator (Willis of Utah) to determine the accuracy of its and all tiers of Subcontractors cost/s of insurance.
8. **Change Order Pricing**  
  
Enrolled Contractor shall price and shall require that all enrolled Subcontractors price change orders to the original scope of work in the same manner as would occur if DFCM did not provide an OCIP. This pricing shall include markups otherwise provided for in the General Conditions. DFCM shall recover insurance cost associated with change orders through the process provided for in paragraph 4, 5, & 6.
9. **Contractor's Responsibility for its Subcontractors**  
  
The Awarding Contractor shall include all of the provisions of this agreement in every Subcontract so that such provisions will be binding upon each of its Subcontractors.
10. **Audit of Contractor's "Insurance Cost"**  
  
For insurance purposes, enrolled Contractor agrees, and will require all tiers of enrolled Subcontractors to agree, to keep and maintain accurate record of its payroll for operations at the project site. These Contractors and Subcontractors further agree to furnish to DFCM, its appointed Administrator (Willis of Utah) or Insurance Carrier full and accurate payroll data and information in accordance with the requirements of DFCM of Utah OCIP. Enrolled Contractor/s shall permit DFCM, its Administrator or Insurance Carrier to examine and/or audit its books and records. Enrolled Contractor/s shall also provide any additional information to DFCM or its appointed Administrator as may be required.



## 11. Coverage provided in OCIP

- 11.1 DFCM, at its sole expense, has implemented this owner controlled insurance program (OCIP) to furnish certain insurance coverage as respects on-site project activities. The OCIP will be for the benefit of DFCM and its enrolled Contractors and Subcontractors of all tiers (unless specifically excluded) who have on-site employees. Such coverage applies only to work performed under this contract at the Project Site. Project Site is defined as the area described in the construction contract documents including the areas available for Contractor operations, access routes, right-of ways, and approved additional sites necessary or incidental thereto in connection with the work or emanating from the project site. Contractor and Subcontractors of all tiers must provide their own insurance for off-site activities. Off-site activities may be covered in OCIP if 100% dedicated to the project as defined in the State of Utah OCIP Manual.

The OCIP policies are available for review by the Contractor upon request to DFCM. The terms of such policies or programs, as such policies or programs may be from time to time amended, will be incorporated by reference herein. The Contractor hereby agrees to be bound by the terms and conditions of coverage as contained in such insurance policies and/or self-insurance programs.

- 11.2 DFCM will minimally provide and maintain in force the types of insurance as listed below. Enrolled Contractors and Subcontractors of all tiers agree that the purpose of said section is to provide a general understanding of the coverage provided by the OCIP.

- 11.3 Withholding from Contract Sum.

The enrolled Contractor agrees that DFCM will withhold from the Contractor a sum equal to the amount of any covered loss under the policy/ies caused by the Contractor or its enrolled Subcontractor(s), but not to exceed the applicable Contractor/Subcontractor deductible as stated herein. That sum shall be assessed to the enrolled Contractor or Subcontractor causing the damage as determined by the Insurer and shall become the property of DFCM.

### 11.4 **Workers' Compensation and Employer's Liability Insurance (Argonaut Insurance Co.)**

#### 11.4.1 Scope of Coverage

- |    |                          |   |
|----|--------------------------|---|
| A. | Operations.              | Work of an enrolled Contractor, Subcontractor of any tier, performed at the Project Site.                             |
| B. | Insured.                 | Enrolled Contractor and Subcontractors of any tier. (Each enrolled Contractor/Subcontractor will be issued a policy.) |
| C. | Limits.                  |   |
|    | 1.                       | Workers' Compensation-Statutory   |
|    | 2.                       | Employer's Liability  |
|    |                          | \$1,000,000 - Each Employee   |
|    |                          | Bodily Injury by Accident   |
|    |                          | \$1,000,000 - Each Employee   |
|    |                          | Bodily Injury by Disease  |
|    |                          | \$1,000,000 - Bodily Injury   |
|    |                          | by Accident or Disease – Any One Accident   |
| D. | Contractors' Deductible. | Contractor shall pay a \$200 deductible per workers' compensation claim.  |

#### 11.4.2 Effect on Future Experience Modifications.

All premiums and loss experience incurred by each enrolled Contractor/ Subcontractor will be reported to NCCI or other appropriate authority, and used in the normal manner for calculating individual future experience modifiers.

### 11.5 **Commercial General Liability (Argonaut Insurance Co.)**

Provides coverage for Bodily Injury, Property Damage, Personal Injury, and Products and Completed Operations (Completed Operations has a 5-year extension).

#### 11.5.1 Scope of Coverage

- |    |                          |   |  |
|----|--------------------------|---|--|
| A  | Operations.              | Work of an enrolled Contractor/Subcontractor of any tier performed at the Project Site.             |  |
| B. | Insureds.                | The State of Utah, DFCM, enrolled Contractors and Subcontractors of all tiers.                      |  |
| C. | Limits.                  | \$2,000,000   | Bodily Injury & Property Damage Combined Single Limit  |
|    |                          | \$10,000,000  | General Aggregate                                      |
|    |                          | \$10,000,000  | Products and Completed Operations and Annual Aggregate |
| D. | Contractors' Deductible. | Contractor shall pay a deductible for Third Party PD/BI cost of claims up to \$1,000 per occurrence |  |

### 11.6 **Railroad Protective (as required) (Lloyd's Underwriters)**

Liability coverage for railroad companies.

#### 11.6.1 Scope of Coverage

- |    |             |  |                 |
|----|-------------|--|-----------------|
| A. | Operations. | Work of any enrolled Contractor/Subcontractor performed on the Project Site. |                 |
| B. | Insured.    | All railroads affected.  |                 |
| C. | Limits.     | \$5,000,000  | Each Occurrence |
|    |             | \$10,000,000   | Aggregate       |

### 11.7 **Excess General Liability Insurance (Cigna and AIG)**

Liability coverage in excess of Primary Commercial General Liability, Employer's Liability and Railroad Protective Liability.

#### 11.7.1 Scope of Coverage

- |    |             |   |
|----|-------------|---|
| A. | Operations. | Work of an enrolled Contractor, Subcontractor of any tier, performed at the Project Site. |
| B. | Insured.    | The State of Utah, DFCM, enrolled Contractors and Subcontractors of all tiers.            |

- |    |         |               |                                  |
|----|---------|---------------|----------------------------------|
| C. | Limits. | \$100,000,000 | Each Occurrence for all Insureds |
|    |         | \$100,000,000 | Aggregate for all Insureds.      |

#### 11.8 Professional Errors & Omissions Liability (DPIC/Security Insurance Co. of Hartford)

Liability coverage for Negligent Acts, Errors or Omissions of the Insureds who have provided professional services for the DFCM of Utah OCIP.

##### 11.8.1 Scope of Coverage

- |    |                          |   |           |
|----|--------------------------|---|-----------|
| A. | Operations.              | Work done in conjunction with the State of Utah OCIP by enrolled Design and Consulting Engineers, Architects, Construction Managers and Sub-consultants.  |           |
| B. | Insured.                 | The State of Utah and DFCM (as defined in policy), enrolled Design and Consulting Engineers, Architects, Construction Managers, Subconsultants and Contractors, to the extent they provide professional services. |           |
| C. | Limits-Project Term.     | \$25,000,000  | Claim     |
|    |                          | \$50,000,000  | Aggregate |
| D. | Consultant's Deductible. | \$50,000  | Claim     |

#### 11.9 Contractors Pollution Liability (Greenwich Insurance Company)

Coverage for Liability arising from pollution releases during construction or remediation work.

##### 11.9.1 Scope of Coverage

- |    |                          |  |            |
|----|--------------------------|--|------------|
| A. | Operations.              | Work done in conjunction with the State of Utah OCIP by enrolled Contractors and Subcontractors of any tier. |            |
| B. | Insured.                 | The State of Utah, DFCM and enrolled Contractors/Subcontractors of any tier.                                 |            |
| C. | Limits - Project Term.   | \$10,000,000   | Occurrence |
|    |                          | \$10,000,000   | Aggregate  |
| D. | Contractors' Deductible. | \$5,000  | Occurrence |

### 12. Certificates and Policies

All DFCM furnished insurance coverage shall be either written by insurance companies approved by DFCM or shall be self-insured. DFCM or appointed Administrator (Willis of Utah) shall provide Contractors and Subcontractors with appropriate certificates of insurance or self-insurance evidencing the coverage outlined above.

### 13. Termination/Modification of the OCIP

DFCM reserves the right to terminate or to modify the OCIP or any portion thereof. To exercise this right, DFCM shall provide ninety (90) days advance written notice to all prime or general Contractors covered by the OCIP. Contractors and Subcontractors of all tiers shall immediately be required to obtain appropriate

replacement insurance coverage acceptable to DFCM. The reasonable cost of such replacement insurance will be reimbursed by DFCM. Written evidence of such insurance shall be provided to DFCM prior to the effective date of the termination or modification of the OCIP.

#### **14. Contractor Responsibilities**

- 14.1 The Contractor is required to cooperate with DFCM and its OCIP Administrator (Willis of Utah) with regards to the administration and operation of the OCIP. The Contractor's responsibilities shall include, but are not limited to:
  - 14.1.1 Compliance with the terms and conditions of Construction Safety Program(s), the State of Utah OCIP Manual, and the State of Utah OCIP Safety and Health Manual, as outlined in said manuals;
  - 14.1.2 Provision(s) of construction contract, operations and insurance information;
  - 14.1.3 Immediately notifying the OCIP Administrator (Willis of Utah) of all Subcontractors of all tiers upon contract award;
  - 14.1.4 Maintenance and provision of payroll records and other records as necessary for premium and Deductive Change Order/s computations;
  - 14.1.5 Cooperation with any insurance company and OCIP Administrator (Willis of Utah) with respect to requests for claims, payroll or other information required under the program;
  - 14.1.6 Immediately notifying DFCM that any Contractor provided coverage has been canceled, materially changed, or not been renewed; and,
  - 14.1.7 Complete and submit the following administrative form/s within the time frames specified:
    - A. OCIP Enrollment Form. Upon execution of the contract;
    - B. Commercial General Liability Declarations page, Workers Compensation Information page, Premium Development Schedules for both and Insurance Certificate evidencing coverage upon execution of the contract;
    - C. Notice of Substantial Completion Form. Upon completion of all work being performed under the contract.

Completed forms will be sent to DFCM's OCIP Administrator (Willis of Utah) at the following address:

Willis of Utah  
Attn: Tonya Gallegos, OCIP Administrator  
2890 East Cottonwood Parkway, Suite 350  
Salt Lake City, UT 84121

- 14.2 Failure to follow the procedures outlined in the State of Utah OCIP Manual and The State of Utah OCIP Safety and Health Manual may result in forfeiture of coverage, fines and or penalties assessed against Contractor. DFCM shall deduct from monies due or to become due, under payments section of its contract, for any applicable fines or penalties that are assessed as well as any other legal remedies available to owner, which remedies may be cumulative.

#### **15. Assignment of Return Premiums**

DFCM will be responsible for the payment of all premiums associated solely with the OCIP and will be the sole recipient of any dividend(s) and/or return premium(s) generated by the OCIP. In consideration of DFCM providing said coverage the enrolled Contractor and Subcontractors agree to:

- 15.1 Provide cost information for workers' compensation, employer's liability and general liability insurance as per OCIP Enrollment Form for themselves. This information may be inclusive of but not limited to insurance premiums, expected losses within any retention or deductible program, overhead and profit.
- 15.2 Irrevocably assign to and for the benefit of DFCM, all return premiums, premium refunds, premium discounts, dividends, retentions, credits, and any other monies due DFCM in connection with the insurance which DFCM herein agrees to provide, and agrees to evidence same by a formal instrument of assignment, if requested, to be promptly executed in the form prepared by DFCM.
- 15.3 Awarded Contractor further agrees to require all tiers of enrolled Subcontractors to execute a similar assignment for the benefit of DFCM.

**16. Contractor-Provided Coverage (Contractor still required to provide following coverage even if OCIP provides coverage)**

- 16.1 For any work under this contract, and until completion and final acceptance of same, the Contractor, at its own expense, must promptly furnish to DFCM's OCIP Administrator (Willis of Utah), certificates of insurance giving evidence that certain coverages are in force. Contractor is responsible for compliance under this program for Subcontractors of all tiers. Enrolled Contractors/Subcontractors shall cause their Workers' Compensation and Employer's Liability policy to be endorsed with Designated Workplace Exclusion Endorsement and its Commercial General Liability Policies to be endorsed with an Exclusion - Designated Work Endorsement (ISO Form CG 21 54 01 96) to exclude operations on Project Site from its coverage.

- 16.2 Prior to entrance on Project Site, Contractor agrees, and shall cause its Subcontractors of all tiers to agree to obtain the insurance set out in this exhibit from a company or companies acceptable to DFCM as follows:

- 16.2.1 Workers Compensation Insurance

Contractor agrees, and shall cause its Subcontractors of all tiers to agree, to provide at their own expense, Workers' Compensation Insurance to cover full liability under the Workers' Compensation Laws of the jurisdiction in which the Project is located at the statutory limits required by said jurisdiction's laws.

- 16.2.2 Employer's Liability Insurance

Contractor agrees, and shall cause its Subcontractors of all tiers to agree to provide, at their own expense, Employer's Liability Insurance with the following minimum limits of liability:

\$100,000 Each Accident  
\$500,000 Disease-Policy Limit  
\$100,000 Disease-Each Employee

- 16.2.3 Commercial General Liability Insurance

Contractor agrees, and shall cause its Subcontractors of all tiers to agree, to provide, at their own expense, Commercial General Liability Insurance, on an "occurrence basis", including insurance for operations, independent Contractors, products/completed operations, and contractual liability specifically designating the Indemnity provisions of this Contractor's Agreement as an insured contract on the Certificate of Insurance. Such

Commercial General Liability Insurance must be endorsed with a Broad Form Property Damage Endorsement (including Completed Operations) and afford coverage for explosion, collapse and underground hazards.

The insurance required by this paragraph 16.2.3 shall be in limits not less than the following:

\$2,000,000	General Aggregate
\$1,000,000	Products-Completed Operations Aggregate
\$1,000,000	Personal & Advertising Injury
\$1,000,000	Each Occurrence
\$50,000	Fire Damage (Any one fire)
\$5,000	Medical Expense (Any one person)

Said certificate shall state that the policy required by paragraph 16.2.3 has been endorsed to name the State of Utah and DFCM as an Additional Insured.

**16.2.4 Automobile Liability Insurance (Coverage not provided in OCIP)**

Contractor agrees, and shall cause its Subcontractors of all tiers to agree, to provide, at their own expense, Automobile Liability Insurance for claims arising from the ownership, maintenance, or use of a motor vehicle at, upon, or away from the Project Site. The insurance shall cover all owned, non-owned, and hired automobiles used in connection with the work, with the following minimum limits of liability:

\$1,000,000	Combined Single Limit Bodily Injury and Property Damage Per Occurrence
-------------	--

Said certificate shall state that the policy required by paragraph 16.2.4 has been endorsed to name the State of Utah and DFCM as an Additional Insured.

**16.2.5 Aircraft Liability Insurance (Coverage not provided in OCIP)**

Contractor and Subcontractors of all tiers using its own aircraft, or employing aircraft in connection with the work performed under this Program shall maintain Aircraft Liability Insurance with a combined single limit of not less than \$1,000,000 per occurrence.

Said certificate shall state that the policy required by paragraph 16.2.5 has been endorsed to name the State of Utah and DFCM as an Additional Insured.

**16.2.6 Valuable Papers and Records and/or Electronic Data Processing (Data and Media) Coverage (Coverage not provided in OCIP)**

The Contractor and Subcontractors of all tiers shall provide coverage for the physical loss of or destruction to their work product including drawings, specifications, and electronic data and media if needed.

**17. Certificates of Insurance**

- 17.1 Prior to entrance on the Project Site, Contractor agrees, and shall cause its Subcontractors of all tiers to agree, to provide to DFCM's OCIP Administrator (Willis of Utah) a Certificate of Insurance setting out coverage described herein, limits and amendments to the certificate necessitated by changes to the work to be performed under the contract until the date of final payment.

Said certificate shall state that the policies required have been endorsed to provide that the insurers issuing said policies shall give DFCM not less than thirty (30) days prior written notice in the event of cancellation or change in coverage thereunder.

- 17.2 All policies required shall be endorsed to include waivers of Subrogation in favor of DFCM.
- 17.3 All insurance required shall be maintained without interruption from the date of commencement of the Work throughout the warranty period as scheduled in the Contractor's Agreement.
- 17.4 All insurance policies provided shall be primary and non-contributing with, and not in excess of, any other insurance available to DFCM.
- 17.5 Such certificate shall be forwarded to the OCIP Administrator (Willis of Utah) at the following address.

Willis of Utah  
Attn: Tonya Gallegos, OCIP Administrator  
2890 East Cottonwood Parkway, Suite 350  
Salt Lake City, UT 84121

#### **18. Notice of Cancellation**

Policies and/or certificates shall specifically provide a 30-day notice of cancellation, non-renewal or material change to be sent to the OCIP Administrator (Willis of Utah) at the aforementioned address.

#### **19. Other Insurance**

Any type of insurance or any increase of limits of liability not described above which a Contractor requires for its own protection or on account of any statute shall be its own responsibility and its own expense.

The OCIP is not an attempt to provide the Contractor and its Subcontractors of all tiers with complete insurance programs. DFCM shall not be responsible to provide any insurance coverage not specified above. The Contractor and its Subcontractors of all tiers have the responsibility to make sure their insurance programs fit their particular needs, and it is their responsibility to arrange for and secure any insurance coverage, which they deem advisable, whether or not specified above.

#### **20. Subcontractor Participation**

Upon execution of the contract, the Awarded Contractor will immediately report all new eligible Subcontractors of all tiers to the OCIP Administrator (Willis of Utah) for enrollment in the OCIP. The Contractor shall incorporate all the provisions of this agreement in any Subcontractor agreement and shall cause its Subcontractors to cooperate fully with DFCM, and insurance companies for the project in the administration of the OCIP. The Contractor agrees to cooperate in the safety and accident prevention program and claim handling procedures as established for the project by DFCM. **In accordance with this supplemental general condition, Contractor shall not permit any Subcontractor of any tier to enter the Project Site prior to enrolling in DFCM's OCIP. Failure to do so will negate the afforded coverage(s).**

#### **21. Waiver of Subrogation**

Contractor waives all rights of Subrogation and recovery against DFCM, its designees(s), Construction Managers, General Contractors and Subcontractor(s) of all tiers to the extent of any loss or damage that is

insured under the OCIP. Contractor waives its rights of Subrogation and recovery for damage to any property or equipment against DFCM, its designees(s), Construction Managers, General Contractors and Subcontractor(s) of all tiers. Contractor shall require all Subcontractor(s) to similarly waive their rights of Subrogation and recovery in each of their respective construction contracts with respect to their work.

**22. No Release**

The carrying of the above-described insurance shall in no way be interpreted as relieving Contractor of any other responsibility or liability under this agreement or any applicable law, statute, regulation or order.

**23. Approval of Forms and Companies**

All insurance described in this contract shall be written by an insurance company or companies satisfactory to DFCM and licensed to do business in Utah and shall be in a form and content satisfactory to DFCM. No party Subject to the provisions of this contract shall violate or knowingly permit to be violated any of the provisions of the policies of insurance described herein. All insurance should be provided by insurance companies with a Best's rating A- VIII or better.

**24. OCIP Manual, OCIP Safety and Health Manual and Claims Procedures**

The Contractor agrees, and shall cause its Subcontractors of all tiers to agree, to adhere to and perform all reporting and administrative requirements as detailed in the State of Utah OCIP Manual and the State of Utah Safety and Health Manual.



# **THE STATE OF UTAH**

## **DFCM**

### **Owner Controlled Insurance Program (OCIP)**

#### **Safety Overview**

The effectiveness of the Safety and Health Program will depend upon the active participation and personal cooperation of all. Project cooperation and coordination of efforts toward carrying out the overall safety responsibilities are needed for an effective program.

The State of Utah- DFCM/OCIP Team will assist in monitoring Contractors and/or Subcontractors implementation and application of their respective safety programs and the State of Utah- DFCM/OCIP safety programs at the work site. The State of Utah- DFCM/OCIP Team has the authority to stop work when either site conditions and/or work practices present an imminent danger (i.e. may result in serious injury, death or extensive property damage) until those conditions and/or practices are corrected.

- Each Contractor shall be held responsible for its own and its Subcontractors compliance with the project safety requirements.
- Each Contractor and its Subcontractors shall establish and enforce an effective disciplinary program.
- Each Contractor and its Subcontractors shall designate an on the job safety Administrator. This may include a supervisor/foreman with safety knowledge. This will be the State of Utah-DFCM/OCIP Team's contact for safety concerns.
- All Contractors and Subcontractors supervision will need to attend S.S.T. training produced by the insurance carrier, approximately a 3-hour course. Contact Argonaut Safety rep. @ 801 293-1100.
- All employees (Contractors, Subcontractors, Engineers, etc.) working on the job will need to attend a construction orientation produced by the insurance carrier, approximately a 10 minute video and 3-page job rules and questions. (Must be completed before beginning work on the site.)
- All employees (Contractors, Subcontractors, Engineers, etc.) working on the job shall have the proper Personal Protective Equipment for the job task they are performing. At the minimum a hard hat, safety glasses, safety vest, long pants, shirt with minimal 4-inch sleeve and work boots.
- All employees (Contractors, Subcontractors, Engineers, etc.) shall have the proper training for job task they are performing (confined space, fall protection, powder actuated tools, traffic control, equipment operating, etc.).
- Each Contractor and its Subcontractors shall at a minimum conduct a weekly Tool Box safety meeting with all employees.
- Each Contractor and its Subcontractors shall assure that a qualified "Competent Person" is provided at work locations where required by OSHA.
- Each Contractor and its Subcontractors shall assure that all applicable forms (confined space permit, hot work permit, lock out/tag out, critical lift checklist, JSA, excavation permit, etc.) are provided at work locations where required by OSHA.
- Each Contractor and Subcontractor shall adhere to a 100% drug/alcohol free work zone. At a minimum a pre-employment and post accident testing is required. The Contractor will bear the cost or expenses associated with pre-employment testing. The Insurance Carrier will bear the cost of post accident testing.

This is only a brief overview of the "State of Utah Owner Controlled Insurance Program" Safety and Health Manual. In the event of a conflict between the provisions of this overview, the OCIP manual and applicable local, State or federal safety and health laws, regulations and/or standards, contract documents or the Contractor's Safety Plan, the more stringent shall apply.

# OCIP ENROLLMENT FORM

## State of Utah Project Information

Project \_\_\_\_\_  
Awarding Contractor \_\_\_\_\_ Prime Contractor: \_\_\_\_\_  
Type of work to be done \_\_\_\_\_  
Start Date \_\_\_\_\_ End Date \_\_\_\_\_

## CONTRACTOR INFORMATION

Your Company Name \_\_\_\_\_ Indv \_\_\_\_\_ Ptshp \_\_\_\_\_ Corp \_\_\_\_\_ J/V \_\_\_\_\_  
Your Company Federal Employer Identification Number: \_\_\_\_\_  
Your Address: \_\_\_\_\_  
Office Contact: \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_  
Site Contact: \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Safety Contact: \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Insurance Contact: \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Payroll Contact: \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Address (if different): \_\_\_\_\_

CONTRACT INFORMATION: Contract #: \_\_\_\_\_ Contract Value \$ \_\_\_\_\_

Job Name/Description: \_\_\_\_\_ DBE/MBE/WBE: \_\_\_\_\_  
% Self Performed Work \_\_\_\_\_ Estimated Project Payroll \_\_\_\_\_  
% Subcontracted Work \_\_\_\_\_ Estimated # of Subcontractors \_\_\_\_\_

## CURRENT INSURANCE INFORMATION

Information Disclosed On This Form Is Subject To Audit And Adjustment Throughout The Term Of The Construction.

### Contractor's Insurance Broker or Agent:

Company Name: \_\_\_\_\_ Contact: \_\_\_\_\_  
City: \_\_\_\_\_ Phone: (\_\_\_\_\_) \_\_\_\_\_

***This enrollment form must be received PRIOR to starting work on the Project.***

*The following enrollment information is required along with this OCIP Form 1 to complete OCIP enrollment:*

- Contractor's
- 1.) Commercial General Liability Declaration (Rate) Page
  - 2.) Workers' Compensation Information (Rate) Page/s
  - 3.) Certificate of Insurance

*Send this form and the all required enrollment information to:*

*Willis Insurance Brokerage of Utah*

*Attn: Tonya Gallegos, OCIP Administrator (phone: 801-947-4110)*

*2890 East Cottonwood Parkway, Suite 350*

*Salt Lake City, Utah 84121*

***Or fax to: (801) 453-0020***

**State Of Utah**

**NOTICE OF SUBSTANTIAL COMPLETION**

Contractor: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

*Please be advised, we are scheduled to complete our work for the following:*

Awarding Contractor \_\_\_\_\_

Job Name/Description: \_\_\_\_\_

Date of Completion: \_\_\_\_\_ Final Contract Value \$ \_\_\_\_\_

<i>Worker Compensation Classification Codes</i>	<i>Final Project Payroll by Classification Codes</i>
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
<b>TOTAL PROJECT PAYROLL</b>	-----

Signature of authorized contractor representative: \_\_\_\_\_

*We used the following subcontractors who will also complete their work on the date shown above:*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Send this form to:

*Willis Insurance Brokerage of Utah, Inc.  
Attn: Tonya Gallegos  
2890 East Cottonwood Parkway, Suite 350  
Salt Lake City, UT 84121 or Fax (801) 453-0020*

## **SECTION 00400 – SUPPLEMENTARY CONDITIONS**

The following supplements modify, change, delete from or add to the "Division of Facilities Construction and Management General Conditions," dated March 20, 2002. Where any Article of the General Conditions is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of the Article, Paragraph, Subparagraph or Clause shall remain in effect. The provisions contained in these supplementary conditions shall supersede any conflicting provisions of said document.

### **ARTICLE 1, GENERAL PROVISIONS**

#### **1.1**

Add the following:

The term "product" as used in these Supplementary conditions includes materials, systems and equipment.

### **ARTICLE 3, CONTRACTOR**

#### **3.1.5 (8)**

In cases of discrepancy concerning dimensions, quantity and location, the Drawings shall take precedence over the Specifications. Explanatory notes on the Drawings shall take precedence over conflicting drawn indications. Figured dimensions shall take precedence over scaled measurements. Where figures are not shown, scaled measurements shall be followed but shall in all cases be verified by measuring actual conditions of Work already in place. In cases of discrepancy concerning quality and application of materials and nontechnical requirements over materials, the Specifications shall take precedence over the Drawings. In case of discrepancy between two or more drawings (Architectural, Structural, Mechanical, etc.) the Architect shall be the sole judge as to which takes precedence, but in any case it shall be assumed that bids are based on the most expensive procedure shown.

#### **3.3.3**

Products are generally specified by ASTM or other reference standard, and/or by manufacturer's name and model number or trade name. When several products or manufacturers are specified as being equally acceptable, the contractor has the option of using any product and manufacturer combination listed.

#### **3.3.4**

Where reference is made to one or more propriety products but restrictive descriptive material of one or more manufacturer(s) is used, it is understood that the products of other manufacturers will be accepted, provided they equal or exceed the standards set forth in the plans and specifications and are compatible with the intent and purpose of the design, subject to the written approval of the Owner and the Architect/engineer prior to the opening of bids. Requests for and information pertaining to said approval must be submitted to the Architect/engineer no later than ten (10) calendar days prior to bid opening. If the descriptive material is not restrictive, the products of other manufacturers specified will be accepted without prior approval provided they are compatible with the intent and purpose of the design.

The contractor may propose the substitution of any material as a supplement to his bid with the monetary amount, additive or deductive as may be the case, clearly stated and shall include the manufacturer's

complete descriptive information with the proposed substitution. This shall be completely apart and separate from the base bid quotation and shall be solely for the information of the Owner and the use of such proposed substitutions shall be strictly decision of the Owner. If substitution is accepted by the Owner, the contract sum shall be adjusted from the base bid either up or down as indicated on the supplementary list by change order afterward.

After the Contract has been executed the Owner and Architect will consider a formal request for the substitution of products in place of those specified, under the following conditions:

The request is accompanied by complete data on the proposed substitution substantiating compliance with the Contract Documents including product identification and description, performance and test data, references and samples where applicable, and its relationship to separate contracts.

The request is accompanied by accurate cost data on the proposed substitution in comparison with the product specified, whether or not modification of the Contract Sum is to be a consideration.

### 3.3.5

Requests for substitution based on Clauses 3.3.4 when forwarded by the Contractor to the Architect, are understood to mean that the Contractor:

Represents that he has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified.

Will provide the same guarantee for all substitution that he would be that specified;

Certified that the cost data presented is complete and includes all related costs under this Contract, but excludes costs under separate contracts and the Architect's redesign costs, and that he waives all claims for additional costs related to the substitution which subsequently becomes apparent; and

Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to complete in all respects.

### 3.3.6

Substitutions will not be considered if:

They are indicated or implied on shop drawing submissions without the formal request required in Clause 3.3.4; or

For their implementation they require a substantial revision of the Contract Documents in order to accommodate their use.

### 3.3.5

The Contractor warrants to the Owner the Architect that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform to the requirements of the Contract Documents. Work not conforming to

these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect or the Owner after consulting the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment

#### 3.7.1 (3)

The Contractor and all Subcontractors, suppliers and manufacturers shall schedule materials, deliveries and installations to conform with the schedule and provisions to this effect shall be included in all subcontracts.

### ARTICLE 4, ADMINISTRATION OF THE CONTRACT

#### 4.1.4.1

The Consultant's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

The term "aesthetic effect" as used herein refers to color, texture, profile and juxtaposition of masses. The Architect shall be the sole interpreter of the design intent with respect to such matters, but the Architect's authority with respect thereto shall not contravene any other rights of either the Owner of the Contractor ascribed to them by other provisions of the Contract.

## SECTION 01140 - WORK RESTRICTIONS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 USE OF PREMISES

- A. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the Work is indicated.
  - 1. Limits: Confine construction operations to areas noted on drawings.
  - 2. Owner Occupancy: Allow for Owner occupancy of site and use by the public.
  - 3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
    - a. Schedule deliveries to minimize use of driveways and entrances.
    - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- B. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

#### 1.3 OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations.
- B. Partial Owner Occupancy: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
  - 1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
  - 2. Obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy.

3. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will provide, operate, and maintain mechanical and electrical systems serving occupied portions of building.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01140



## SECTION 01250 - CONTRACT MODIFICATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
  - 1. Division 1 Section "Allowances" for procedural requirements for handling and processing allowances.
  - 2. Division 1 Section "Unit Prices" for administrative requirements for using unit prices.
  - 3. Division 1 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

#### 1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue Field Orders authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

#### 1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
  - 2. Within 7 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

- c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.
  - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
  - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
  - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  - 4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  - 5. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: For Change Order proposals, use forms provided by Owner. Sample copies are included at end of this Section.

## 1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on form included at end of Part 3.

## 1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on form included at end of Part 3. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
  - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
  - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01250

## SECTION 01290 - PAYMENT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
  - 1. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
  - 2. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

#### 1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
  - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with Continuation Sheets.
    - b. Submittals Schedule.
  - 2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
  - 1. Identification: Include the following Project identification on the Schedule of Values:
    - a. Project name and location.
    - b. Name of Architect.
    - c. Architect's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
  - a. Related Specification Section or Division.
  - b. Description of the Work.
  - c. Name of subcontractor.
  - d. Name of manufacturer or fabricator.
  - e. Name of supplier.
  - f. Change Orders (numbers) that affect value.
  - g. Dollar value.
  - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
  - a. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required.
6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
8. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

#### 1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: The date for each progress payment is the 15th day of each month. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends 15 days before the date for each progress payment.
- D. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
  - 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
  - 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- F. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
  - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
  - 1. List of subcontractors.
  - 2. Schedule of Values.
  - 3. Contractor's Construction Schedule (preliminary if not final).
  - 4. Products list.
  - 5. Schedule of unit prices.
  - 6. Submittals Schedule (preliminary if not final).
  - 7. List of Contractor's staff assignments.
  - 8. List of Contractor's principal consultants.
  - 9. Copies of building permits.
  - 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  - 11. Initial progress report.
  - 12. Report of preconstruction conference.
  - 13. Certificates of insurance and insurance policies.

- I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
  - 1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
  - 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
  - 1. Evidence of completion of Project closeout requirements.
  - 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  - 3. Updated final statement, accounting for final changes to the Contract Sum.
  - 4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
  - 5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
  - 6. Evidence that claims have been settled.
  - 7. Final meter readings for utilities and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
  - 8. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01290

## SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General project coordination procedures.
  - 2. Conservation.
  - 3. Coordination Drawings.
  - 4. Administrative and supervisory personnel.
  - 5. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1 Section "Construction Progress Documentation" for preparing and submitting the Contractor's Construction Schedule.
  - 2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
  - 3. Division 1 Section "Closeout Procedures" for coordinating Contract closeout.

#### 1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
- B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
  - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.



- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of Contractor's Construction Schedule.
  - 2. Preparation of the Schedule of Values.
  - 3. Installation and removal of temporary facilities and controls.
  - 4. Delivery and processing of submittals.
  - 5. Progress meetings.
  - 6. Preinstallation conferences.
  - 7. Project closeout activities.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
  - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.

#### 1.4 SUBMITTALS

- A. Staff Names: Within 15 days of starting construction operations, submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
  - 1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone.

#### 1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.
  - 1. Include special personnel required for coordination of operations with other contractors.

#### 1.6 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
  - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
  - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.

3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within 5 days of the meeting.
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 5 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Phasing.
    - c. Critical work sequencing.
    - d. Designation of responsible personnel.
    - e. Procedures for processing field decisions and Change Orders.
    - f. Procedures for processing Applications for Payment.
    - g. Distribution of the Contract Documents.
    - h. Submittal procedures.
    - i. Preparation of Record Documents.
    - j. Use of the premises.
    - k. Responsibility for temporary facilities and controls.
    - l. Parking availability.
    - m. Office, work, and storage areas.
    - n. Equipment deliveries and priorities.
    - o. First aid.
    - p. Security.
    - q. Progress cleaning.
    - r. Working hours.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
  2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related Change Orders.
    - d. Purchases.
    - e. Deliveries.

- f. Submittals.
  - g. Review of mockups.
  - h. Possible conflicts.
  - i. Compatibility problems.
  - j. Time schedules.
  - k. Weather limitations.
  - l. Manufacturer's written recommendations.
  - m. Warranty requirements.
  - n. Compatibility of materials.
  - o. Acceptability of substrates.
  - p. Temporary facilities and controls.
  - q. Space and access limitations.
  - r. Regulations of authorities having jurisdiction.
  - s. Testing and inspecting requirements.
  - t. Required performance results.
  - u. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements.
  - 4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.
- 1. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - b. Review present and future needs of each entity present, including the following:
      - 1) Interface requirements.
      - 2) Sequence of operations.
      - 3) Status of submittals.
      - 4) Deliveries.
      - 5) Off-site fabrication.
      - 6) Access.
      - 7) Site utilization.
      - 8) Temporary facilities and controls.
      - 9) Work hours.
      - 10) Hazards and risks.
      - 11) Progress cleaning.
      - 12) Quality and work standards.
      - 13) Change Orders.

- 14) Documentation of information for payment requests.
- 2. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
  - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01310

## SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Preliminary Construction Schedule.
  - 2. Contractor's Construction Schedule.
  - 3. Submittals Schedule.
  - 4. Daily construction reports.
- B. Related Sections include the following:
  - 1. Division 1 Section "Payment Procedures" for submitting the Schedule of Values.
  - 2. Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
  - 3. Division 1 Section "Submittal Procedures" for submitting schedules and reports.
  - 4. Division 1 Section "Photographic Documentation" for submitting construction photographs.
  - 5. Division 1 Section "Closeout Procedures" for submitting photographic negatives as Project Record Documents at Project closeout.

#### 1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
  - 2. Predecessor activity is an activity that must be completed before a given activity can be started.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

- C. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.
  - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
  - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.
  - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- F. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- G. Major Area: A story of construction, a separate building, or a similar significant construction element.
- H. Milestone: A key or critical point in time for reference or measurement.
- I. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

#### 1.4 SUBMITTALS

- A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
  - 1. Scheduled date for first submittal.
  - 2. Specification Section number and title.
  - 3. Submittal category (action or informational).
  - 4. Name of subcontractor.
  - 5. Description of the Work covered.
  - 6. Scheduled date for Architect's final release or approval.
- B. Preliminary Construction Schedule: Submit two printed copies.
- C. Contractor's Construction Schedule: Submit three printed copies of initial schedule.
  - 1. Submit an electronic copy of schedule, using software indicated, on 3-1/2-inch diskettes, formatted to hold 1.44 MB of data, and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.
- D. Daily Construction Reports: Submit two copies at weekly intervals.

## 1.5 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
  - 1. Secure time commitments for performing critical elements of the Work from parties involved.
  - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

## PART 2 - PRODUCTS

### 2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
  - 1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
  - 2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
  - 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

### 2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
  - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
  - 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.

2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
  3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
  4. Startup and Testing Time: Include not less than five (5) days for startup and testing.
  5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
  2. Work Restrictions: Show the effect of the following items on the schedule:
    - a. Coordination with existing construction.
    - b. Limitations of continued occupancies.
    - c. Uninterruptible services.
    - d. Partial occupancy before Substantial Completion.
    - e. Use of premises restrictions.
    - f. Provisions for future construction.
    - g. Seasonal variations.
    - h. Environmental control.
  3. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
    - a. Subcontract awards.
    - b. Submittals.
    - c. Purchases.
    - d. Mockups.
    - e. Fabrication.
    - f. Sample testing.
    - g. Deliveries.
    - h. Installation.
    - i. Tests and inspections.
    - j. Adjusting.
    - k. Curing.
    - l. Startup and placement into final use and operation.
  4. Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
    - a. Structural completion.
    - b. Permanent space enclosure.
    - c. Completion of mechanical installation.



- d. Completion of electrical installation.
  - e. Substantial Completion.
- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.
  - 1. **<Insert additional milestones not indicated elsewhere.>**
- F. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
  - 1. Refer to Division 1 Section "Payment Procedures" for cost reporting and payment procedures.
- G. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.
- H. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.

## 2.3 PRELIMINARY CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within seven days of date established for the Notice of Award.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 60 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

## 2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. Preliminary Network Diagram: Submit diagram within 14 days of date established for the Notice of Award. Outline significant construction activities for the first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.
- C. CPM Schedule: Prepare Contractor's Construction Schedule using a CPM network analysis diagram.
  - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 30 days after date established for the Notice of Award.
  - 2. Use "one workday" as the unit of time.

- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths.
1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
    - a. Preparation and processing of submittals.
    - b. Purchase of materials.
    - c. Delivery.
    - d. Fabrication.
    - e. Installation.
  2. Processing: Process data to produce output data or a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
  3. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
    - a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
- E. Initial Issue of Schedule: Prepare initial network diagram from a list of straight "early start-total float" sort. Identify critical activities. Prepare tabulated reports showing the following:
1. Contractor or subcontractor and the Work or activity.
  2. Description of activity.
  3. Principal events of activity.
  4. Immediate preceding and succeeding activities.
  5. Early and late start dates.
  6. Early and late finish dates.
  7. Activity duration in workdays.
  8. Total float or slack time.
  9. Average size of workforce.
  10. Dollar value of activity (coordinated with the Schedule of Values).
- F. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
1. Identification of activities that have changed.
  2. Changes in early and late start dates.
  3. Changes in early and late finish dates.
  4. Changes in activity durations in workdays.
  5. Changes in the critical path.
  6. Changes in total float or slack time.
  7. Changes in the Contract Time.
- G. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.

1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
  - a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
  - b. Submit value summary printouts with Payment Applications before each regularly scheduled progress meeting.

## 2.5 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
  1. List of subcontractors at Project site.
  2. List of separate contractors at Project site.
  3. Approximate count of personnel at Project site.
  4. High and low temperatures and general weather conditions.
  5. Accidents.
  6. Meetings and significant decisions.
  7. Unusual events (refer to special reports).
  8. Stoppages, delays, shortages, and losses.
  9. Meter readings and similar recordings.
  10. Emergency procedures.
  11. Orders and requests of authorities having jurisdiction.
  12. Change Orders received and implemented.
  13. Construction Change Directives received.
  14. Services connected and disconnected.
  15. Equipment or system tests and startups.
  16. Partial Completions and occupancies.
  17. Substantial Completions authorized.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities.
  - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
  - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
  - 3. As the Work progresses, indicate Actual Completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
  - 1. Post copies in Project meeting rooms and temporary field offices.
  - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01320

## SECTION 01330 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.
- B. Related Sections include the following:
  - 1. Division 1 Section "Payment Procedures" for submitting Applications for Payment.
  - 2. Division 1 Section "Project Management and Coordination" for submitting Coordination Drawings.
  - 3. Division 1 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals.
  - 4. Division 1 Section "Quality Requirements" for submitting test and inspection reports and Delegated-Design Submittals.
  - 5. Division 1 Section "Closeout Procedures" for submitting warranties.
  - 6. Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
  - 7. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.

#### 1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's and Construction Manager's responsive action.
- B. Informational Submittals: Written information that does not require Architect's approval. Submittals may be rejected for not complying with requirements.

#### 1.4 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Coordinate transmittal of different types of submittals for related parts of the work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- D. Processing Time: Allow enough time for submittal review, including time for resubmittals. Time for review shall commence on Architect's receipt of submittal.
1. Review: Allow 15 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Allow 15 days for processing each resubmittal.
- E. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
  2. Provide a space approximately 4 by 5 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect .
  3. Include the following information on label for processing and recording action taken:
    - a. Project name.
    - b. Date.
    - c. Name and address of Architect.
    - d. Name and address of Contractor.
    - e. Name and address of subcontractor.
    - f. Name and address of supplier.
    - g. Name of manufacturer.
    - h. Unique identifier, including revision number.
    - i. Number and title of appropriate Specification Division and Specification Section.
    - j. Drawing number and detail references, as appropriate.
    - k. Contractor's certification signature certifying the following: "The Contractor has reviewed and approved this submittal and represents that he has determined and verified materials, field measurements, and related field construction criteria, and has checked and coordinated the information contained within the submittal with the requirements of the work and of the Contract Documents." The preceding statement shall also be on the stamp or on the transmittal accompanying each submittal.
    - l. Other necessary identification.

- F. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
- G. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.
  - 1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
- H. Submittal Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal along with the above information on the stamp or within the title block, from the Contractor to the Architect using a transmittal form. Address and deliver the submittals to W. Niel Teeples, Associate AIA, Document Control Center, GSBS Architects, 375 West 200 South, Suite 100, Salt Lake City, Utah 84101. The Architect will not accept submittals received from sources other than the Contractor.
  - 1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
  - 2. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
  - 3. Transmittal Form: Provide locations on form for the following information:
    - a. Project name.
    - b. Date.
    - c. Destination (To:).
    - d. Source (From:).
    - e. Names of subcontractor, manufacturer, and supplier.
    - f. Category and type of submittal.
    - g. Submittal purpose and description.
    - h. Submittal and transmittal distribution record.
    - i. Remarks.
    - j. Signature of transmitter.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Use only final submittals with mark indicating action taken by Architect in connection with construction.

## PART 2 - PRODUCTS

### 2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
  - 1. Number of Copies: Submit copies of each submittal, as follows, unless otherwise indicated:
    - a. Initial Submittal: Submit a preliminary single copy of each submittal where selection of options, color, pattern, texture, or similar characteristics is required. Architect will return submittal with options selected.
    - b. Final Submittal: Submit three copies, unless copies are required for operation and maintenance manuals. Submit five copies where copies are required for operation and maintenance manuals. Architect will retain two copies; remainder will be returned. Mark up and retain one returned copy as a Project Record Document.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
  - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
  - 2. Mark each copy of each submittal to show which products and options are applicable.
  - 3. Include the following information, as applicable:
    - a. Manufacturer's written recommendations.
    - b. Manufacturer's product specifications.
    - c. Manufacturer's installation instructions.
    - d. Standard color charts.
    - e. Manufacturer's catalog cuts.
    - f. Wiring diagrams showing factory-installed wiring.
    - g. Printed performance curves.
    - h. Operational range diagrams.
    - i. Mill reports.
    - j. Standard product operating and maintenance manuals.
    - k. Compliance with recognized trade association standards.
    - l. Compliance with recognized testing agency standards.
    - m. Application of testing agency labels and seals.
    - n. Notation of coordination requirements.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
  - 1. Preparation: Include the following information, as applicable:
    - a. Dimensions.
    - b. Identification of products.
    - c. Fabrication and installation drawings.



- d. Roughing-in and setting diagrams.
  - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
  - f. Shopwork manufacturing instructions.
  - g. Templates and patterns.
  - h. Schedules.
  - i. Design calculations.
  - j. Compliance with specified standards.
  - k. Notation of coordination requirements.
  - l. Notation of dimensions established by field measurement.
- 2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
  - 3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
  - 4. Number of Copies: Submit copies of each submittal, as follows:
    - a. One set of reproducible vellums, and two (2) print copies.
    - b. Must be reviewed, approved, stamped, signed and dated by General Contractor.
    - c. Show Specification Section No. (from Project Manual).
    - d. Show Sub-Contractor's name, address, telephone and fax numbers and Contact Person.

Note: Samples, Manuals, and Product Submittals will be processed basically in this same manner.

- e. General Contractor
    - 1) Shall receive back his one set of reproducible vellum drawings as reviewed by the Architect and/or Engineer.
    - 2) Contractor is responsible for print sets and distribution of same.
    - 3) Shop Drawing *originals* belong to the Contractor and shall remain in his files.
- D. Coordination Drawings: Comply with requirements in Division 1 Section "Project Management and Coordination".
- E. Samples: Prepare physical units of materials or products, including the following:
- 1. Comply with requirements in Division 1 Section "Quality Requirements" for mockups.
  - 2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
  - 3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

4. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:
    - a. Generic description of Sample.
    - b. Product name or name of manufacturer.
    - c. Sample source.
  5. Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, provide the following:
    - a. Size limitations.
    - b. Compliance with recognized standards.
    - c. Availability.
    - d. Delivery time.
  6. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
    - a. If variation in color, pattern, texture or other characteristic is inherent in the product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of the variations.
    - b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
  7. Number of Samples for Initial Selection: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
  8. Number of Samples for Verification: Submit three (3) sets of Samples. Architect will retain two (2) Sample sets; remainder will be returned.
    - a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
  9. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
- F. Product Schedule or List: Prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product.
  2. Number and name of room or space.
  3. Location within room or space.
- G. Delegated-Design Submittal: Comply with requirements in Division 1 Section "Quality Requirements."
- H. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for Construction Manager's action.
- I. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."
- J. Schedule of Values: Comply with requirements in Division 1 Section "Payment Procedures."
- K. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
1. Name, address, and telephone number of entity performing subcontract or supplying products.
  2. Number and title of related Specification Section(s) covered by subcontract.
  3. Drawing number and detail references, as appropriate, covered by subcontract.

## 2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Architect will not return copies.
  2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
  3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."
- B. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."
- C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- D. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and

Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.

- F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- H. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- I. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- J. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.
- K. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- L. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.
- M. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- N. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
  - 1. Name of evaluation organization.
  - 2. Date of evaluation.
  - 3. Time period when report is in effect.
  - 4. Product and manufacturers' names.
  - 5. Description of product.
  - 6. Test procedures and results.
  - 7. Limitations of use.

- O. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "Closeout Procedures."
- P. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- Q. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
1. Preparation of substrates.
  2. Required substrate tolerances.
  3. Sequence of installation or erection.
  4. Required installation tolerances.
  5. Required adjustments.
  6. Recommendations for cleaning and protection.
- R. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
1. Name, address, and telephone number of factory-authorized service representative making report.
  2. Statement on condition of substrates and their acceptability for installation of product.
  3. Statement that products at Project site comply with requirements.
  4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  5. Results of operational and other tests and statement of whether observed performance complies with requirements.
  6. Statement whether conditions, products, and installation will affect warranty.
  7. Other required items indicated in individual Specification Sections.
- S. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- T. Material Safety Data Sheets: Submit information directly to Owner. If submitted to Architect, Architect will not review this information but will return it with no action taken.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

### 3.2 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

- 1. Action Stamp: The Architect and/or Engineer will stamp each submittal with a uniform, action stamp. The Architect and/or Engineer will mark the stamp appropriately to indicate the action taken, as follows:
  - a. Final Unrestricted Release: When the Architect marks a submittal "Reviewed," the work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
  - b. Final-But-Restricted Release: When the Architect marks a submittal "Furnish as Corrected," the work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
  - c. Returned for Resubmittal: When the Architect marks a submittal "Revise and Resubmit," do not proceed with work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.

Do not use, or allow others to use, submittals marked "Revise and Resubmit," at the Project Site or elsewhere where work is in progress.

- d. Returned for Alternate Submittal: When the Architect marks a submittal "Rejected," do not proceed with work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Product was not appropriate or

as specified. Prepare a new submittal according to the Contract Documents; submit without delay.

- C. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

### 3.3 GSBS SHOP DRAWING CONTROL PROCEDURES

- A. See form below:



TEL 801.521.8600

FAX 801.521.7913

GILLIES STRANSKY BREMS SMITH PC

ARCHITECTURE | LANDSCAPE ARCHITECTURE | INTERIOR DESIGN | PLANNING

375 WEST 200 SOUTH  
SALT LAKE CITY, UTAH 84101

## ***Shop Drawing Control***

***July 12, 2002***

**The following procedures have been established for proper handling of all Shop Drawings.**

### **1. General Contractor: Shop Drawings for Submittal:**

1. **One** set of reproducible vellums, and **two** print copies.
2. Must be **reviewed, approved, stamped, signed, and dated** by General Contractor. (3.12.5 & 3.12.6 AIA A201-1997)
3. Show Specification Section No. (from Project Manual).
4. Show Sub-Contractor's **name, address, telephone & fax. Numbers, & Contact Person.**

**Note:** Samples, Manuals, and Product Submittals will be processed basically in this same manner.

**\*\*** All printing costs of Shop Drawings shall be borne by the General Contractor and /or the Sub-Contractor. The Sub-Contractor shall be informed by the General Contractor to provide **one** set of reproducible vellums, and **two** print copies for the General Contractor's use. Please do not fold drawings. Also, Contractor shall pay for one additional copy as identified in paragraph 4 below.

### **2. General Contractor: Deliver Shop Drawings to:**

W. Niel Teeples, Associate AIA  
Document Control Center  
GSBS Architects  
375 West 200 South  
Salt Lake City, Utah 84101  
Telephone: (801) 521-8600  
Fax. (801) 521-7913

Each shop Drawing will be logged into GSBS Shop Drawing Sample Record, stamped "Received" and dated.

### **3. Document Control Center: Project Architect**

1. Review shop drawings, sign and date.
2. Return shop drawings to Document Control as soon as possible.  
**Detour to Consultants:** Structural, Mechanical, Electrical, Civil Consultants, etc. shall be required to **review, sign and date** their respective shop drawings.



(as received from the General contractor *thru* GSBS Document Control).

**4. Document Control Center:**

1. Will make one set of prints and photocopies of all information for GSBS office files.
2. Date: "Logged Out" on GSBS office file records.
3. Contractor then notified: "Ready for Pick-up".

**5. General Contractor:**

1. Shall receive back his one set of reproducible vellum drawings as reviewed by the Architect and/or Engineer.
2. Contractor is responsible for print sets and distribution of same.
3. Shop drawing originals belong to the Contractor and shall remain in his files.  
(3.11.1 AIA A201-1997 Edition General Conditions).

END OF SECTION 01330

## SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.
- B. Temporary utilities include, but are not limited to, the following:
  - 1. Sewers and drainage.
  - 2. Water service and distribution.
  - 3. Sanitary facilities, including toilets, wash facilities, and drinking-water facilities.
  - 4. Heating and cooling facilities.
  - 5. Ventilation.
  - 6. Electric power service.
  - 7. Lighting.
  - 8. Telephone service.
- C. Support facilities include, but are not limited to, the following:
  - 1. Dewatering facilities and drains.
  - 2. Project identification and temporary signs.
  - 3. Waste disposal facilities.
  - 4. Field offices.
  - 5. Lifts and hoists.
  - 6. Temporary stairs.
  - 7. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities include, but are not limited to, the following:
  - 1. Environmental protection.
  - 2. Stormwater control.
  - 3. Tree and plant protection.
  - 4. Site enclosure fence.
  - 5. Barricades, warning signs, and lights.
  - 6. Temporary enclosures.
  - 7. Temporary partitions.
  - 8. Fire protection.
- E. Related Sections include the following:

1. Division 1 Section "Submittal Procedures" for procedures for submitting copies of implementation and termination schedule and utility reports.
2. Division 1 Section "Execution Requirements" for progress cleaning requirements.
3. Divisions 2 through 16 for temporary heat, ventilation, and humidity requirements for products in those Sections.

### 1.3 DEFINITIONS

- A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures.

### 1.4 USE CHARGES

- A. General: Cost or use charges for temporary facilities are not chargeable to Owner or Architect and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:
  1. Occupants of Project.
  2. Architect.
  3. Testing agencies.
  4. Personnel of authorities having jurisdiction.
- B. Water Service: Use water from Owner's existing water system without metering and without payment of use charges.
- C. Electric Power Service: Use electric power from Owner's existing system without metering and without payment of use charges.

### 1.5 SUBMITTALS

- A. Implementation and Termination Schedule: Within 15 days of date established for submittal of Contractor's Construction Schedule, submit a schedule indicating implementation and termination of each temporary utility.

### 1.6 QUALITY ASSURANCE

- A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
  1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
  2. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

## 1.7 PROJECT CONDITIONS

- A. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
  - 1. Keep temporary services and facilities clean and neat.
  - 2. Relocate temporary services and facilities as required by progress of the Work.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.
- B. Pavement: Comply with Division 2 Section "Hot-Mix Asphalt Paving."
- C. Portable Chain-Link Fencing: Minimum 2-inch (50-mm) 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with corrugated; impact driven T-post for line posts and 4-inch I.D. gate and corner posts placed in concrete.
- D. Lumber and Plywood: Comply with requirements in Division 6 Section "Rough Carpentry."
- E. Paint: Comply with requirements in Division 9 Section "Painting."
- F. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- G. Water: Potable.

### 2.2 EQUIPMENT

- A. General: Provide equipment suitable for use intended.
- B. Field Offices: Mobile units with lockable entrances, operable windows, and serviceable finishes; heated and air conditioned; on foundations adequate for normal loading.
- C. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
  - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
- D. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- E. Drinking-Water Fixtures: Containerized, tap-dispenser, bottled-water drinking-water units, including paper cup supply.

1. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55 deg F (7.2 to 12.7 deg C).
- F. Heating Equipment: Unless Owner authorizes use of permanent heating system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
  2. Heating Units: Listed and labeled, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use for type of fuel being consumed.
- G. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.
- H. Power Distribution System Circuits: Where permitted and overhead and exposed for surveillance, wiring circuits, not exceeding 125-V ac, 20-A rating, and lighting circuits may be nonmetallic sheathed cable.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION, GENERAL**

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

### **3.2 TEMPORARY UTILITY INSTALLATION**

- A. General: Engage appropriate local utility company to install temporary service or connect to existing service. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.
1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
  2. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide trucked-in services.
  3. Obtain easements to bring temporary utilities to Project site where Owner's easements cannot be used for that purpose.
- B. Sewers and Drainage: Provide temporary connections to remove effluent that can be discharged lawfully.

1. Filter out excessive soil, construction debris, chemicals, oils, and similar contaminants that might clog sewers or pollute waterways before discharge.
  2. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. After heavy use, restore normal conditions promptly.
- C. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
1. Provide rubber hoses as necessary to serve Project site.
  2. Where installations below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize water damage. Drain accumulated water promptly from pans.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
  2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Provide separate facilities for male and female personnel.
  3. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel who handle materials that require wash up. Dispose of drainage properly. Supply cleaning compounds appropriate for each type of material handled.
    - a. Provide safety showers, eyewash fountains, and similar facilities for convenience, safety, and sanitation of personnel.
  4. Drinking-Water Facilities: Provide bottled-water, drinking-water units.
    - a. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55 deg F (7.2 to 12.7 deg C).
- E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed.
1. Maintain a minimum temperature of 50 deg F (10 deg C) in permanently enclosed portions of building for normal construction activities, and 65 deg F (18.3 deg C) for finishing activities and areas where finished Work has been installed.
- F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

- G. Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload-protected disconnecting means, automatic ground-fault interrupters, and main distribution switchgear.
- H. Electric Power Service: Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.
- I. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment.
  - 1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
  - 2. Provide metal conduit, tubing, or metallic cable for wiring exposed to possible damage. Provide rigid steel conduits for wiring exposed on grades, floors, decks, or other traffic areas.
  - 3. Provide metal conduit enclosures or boxes for wiring devices.
  - 4. Provide 4-gang outlets, spaced so 100-foot (30-m) extension cord can reach each area for power hand tools and task lighting. Provide a separate 125-V ac, 20-A circuit for each outlet.
- J. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.
  - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
  - 2. Provide one 100-W incandescent lamp per 500 sq. ft. (45 sq. m), uniformly distributed, for general lighting, or equivalent illumination.
  - 3. Provide one 100-W incandescent lamp every 50 feet (15 m) in traffic areas.
  - 4. Provide one 100-W incandescent lamp per story in stairways and ladder runs, located to illuminate each landing and flight.
  - 5. Install exterior-yard site lighting that will provide adequate illumination for construction operations, traffic conditions, and signage visibility when the Work is being performed.
  - 6. Install lighting for Project identification sign.
- K. Telephone Service: Provide temporary telephone service throughout construction period for common-use facilities used by all personnel engaged in construction activities. Install separate telephone line for each field office and first-aid station.
  - 1. Provide additional telephone lines for the following:
    - a. In field office with more than two occupants, install a telephone for each additional occupant or pair of occupants.
    - b. Provide a dedicated telephone line for each facsimile machine and computer with modem in each field office.
  - 2. At each telephone, post a list of important telephone numbers.
    - a. Police and fire departments.
    - b. Ambulance service.

- c. Contractor's home office.
  - d. Architect's office.
  - e. Engineers' offices.
  - f. Owner's office.
  - g. Principal subcontractors' field and home offices.
- 3. Provide an answering machine or voice-mail service on superintendent's telephone.
  - 4. Furnish superintendent with portable two-way radio for use when away from field office.
  - 5. Provide a portable cellular telephone for superintendent's use in making and receiving telephone calls when away from field office.

### 3.3 SUPPORT FACILITIES INSTALLATION

#### A. General: Comply with the following:

- 1. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access.
- 2. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet (9 m) of building lines. Comply with NFPA 241.
- 3. Maintain support facilities until near Substantial Completion. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

#### B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate to support loads and to withstand exposure to traffic during construction period. Locate temporary roads and paved areas in same location as permanent roads and paved areas. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

- 1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
- 2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Division 2 Section "Earthwork."
- 3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
- 4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Division 2 Section "Hot-Mix Asphalt Paving."

#### C. Dewatering Facilities and Drains: Maintain Project site, excavations, and construction free of water.

- 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining property nor endanger permanent Work or temporary facilities.
- 2. Before connection and operation of permanent drainage piping system, provide temporary drainage where roofing or similar waterproof deck construction is completed.
- 3. Remove snow and ice as required to minimize accumulations.



- D. **Project Identification and Temporary Signs:** Prepare Project identification and other signs in sizes indicated. Install signs where indicated to inform public and persons seeking entrance to Project. Do not permit installation of unauthorized signs.
1. Engage an experienced sign painter to apply graphics for Project identification signs. Comply with details indicated.
  2. Prepare temporary signs to provide directional information to construction personnel and visitors.
  3. Construct signs of exterior-type Grade B-B high-density concrete form overlay plywood in sizes and thicknesses indicated. Support on posts or framing of preservative-treated wood or steel.
  4. Paint sign panel and applied graphics with exterior-grade alkyd gloss enamel over exterior primer.
- E. **Waste Disposal Facilities:** Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.
1. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.
  2. Develop a waste management plan for Work performed on Project. Indicate types of waste materials Project will produce and estimate quantities of each type. Provide detailed information for on-site waste storage and separation of recyclable materials. Provide information on destination of each type of waste material and means to be used to dispose of all waste materials.
- F. **Common-Use Field Office:** Provide an insulated, weathertight, air-conditioned field office for use as a common facility by all personnel engaged in construction activities; of sufficient size to accommodate required office personnel and meetings of eight (8) persons at Project site. Keep office clean and orderly.
1. Furnish and equip offices as follows:
    - a. Desk and four chairs, four-drawer file cabinet, a plan table, a plan rack, and bookcase.
    - b. Water cooler and private toilet complete with water closet, lavatory, and medicine cabinet with mirror.
    - c. Coffee machine and supplies, including regular and decaffeinated coffee, filters, cups, stirring sticks, creamer, sugar, and sugar substitute.
    - d. Provide a room of not less than 240 sq. ft. (22.5 sq. m) for Project meetings. Furnish room with conference table, 12 folding chairs, and 4-foot- (1.2-m-) square tack board.
- G. **Lifts and Hoists:** Provide facilities for hoisting materials and personnel. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- H. **Temporary Stairs:** Until permanent stairs are available, provide temporary stairs where ladders are not adequate. Cover finished, permanent stairs with protective covering of plywood or similar material so finishes will be undamaged at time of acceptance.

- I. Existing Stair Usage: Use of Owner's existing stairs will be permitted, as long as stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
  1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If, despite such protection, stairs become damaged, restore damaged areas so no evidence remains of correction work.

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons near Project site.
- B. Stormwater Control: Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of stormwater from heavy rains.
- C. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from construction damage. Protect tree root systems from damage, flooding, and erosion.
- D. Site Enclosure Fence: Before construction operations begin, install portable chain-link enclosure fence with lockable entrance gates. Locate where indicated, or enclose entire Project site or portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering site except by entrance gates.
  1. Provide gates in sizes and at locations necessary to accommodate delivery vehicles and other construction operations.
  2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Provide Owner with one set of keys.
- E. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.
  1. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch- (16-mm-) thick exterior plywood.
- F. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
  2. Vertical Openings: Close openings of 25 sq. ft. (2.3 sq. m) or less with plywood or similar materials.
  3. Horizontal Openings: Close openings in floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.
  4. Install tarpaulins securely using fire-retardant-treated wood framing and other materials.
- G. Temporary Partitions: Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.
1. Construct dustproof partitions of not less than nominal 4-inch (100-mm) studs, 5/8-inch (16-mm) gypsum wallboard with joints taped on occupied side, and 1/2-inch (13-mm) fire-retardant plywood on construction side.
- H. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
1. Provide fire extinguishers, installed on walls on mounting brackets, visible and accessible from space being served, with sign mounted above.
    - a. Field Offices: Class A stored-pressure water-type extinguishers.
    - b. Other Locations: Class ABC dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for exposures.
    - c. Locate fire extinguishers where convenient and effective for their intended purpose; provide not less than one extinguisher on each floor at or near each usable stairwell.
  2. Store combustible materials in containers in fire-safe locations.
  3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for firefighting. Prohibit smoking in hazardous fire-exposure areas.
  4. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
  5. Permanent Fire Protection: At earliest feasible date in each area of Project, complete installation of permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
  6. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
  7. Provide hoses for fire protection of sufficient length to reach construction areas. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

### 3.5 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.
  - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
  - 2. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.
- D. Temporary Facility Changeover: Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- E. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
  - 1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
  - 2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
  - 3. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 1 Section "Closeout Procedures."

END OF SECTION 01500

## SECTION 01600 - PRODUCT REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following administrative and procedural requirements: selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. Related Sections include the following:
  - 1. Division 1 Section "References" for applicable industry standards for products specified.
  - 2. Division 1 Section "Closeout Procedures" for submitting warranties for contract closeout.
  - 3. Divisions 2 through 16 Sections for specific requirements for warranties on products and installations specified to be warranted.

#### 1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
  - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
  - 2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
  - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other

designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

- D. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- E. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

#### 1.4 SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitution Request Form: Use form provided at end of Section.
  - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified material or product cannot be provided.
    - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
    - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
    - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
    - e. Samples, where applicable or requested.
    - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
    - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
    - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
    - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
    - j. Cost information, including a proposal of change, if any, in the Contract Sum.
    - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.

1. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
  - a. Form of Acceptance: Change Order.
  - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.

#### 1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

#### 1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
  1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
  2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
  5. Store products to allow for inspection and measurement of quantity or counting of units.
  6. Store materials in a manner that will not endanger Project structure.
  7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
  8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
  9. Protect stored products from damage.

#### 1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
  - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
  - 2. Specified Form: Some forms may be included with the Specifications. Prepare a written document using appropriate form properly executed.
  - 3. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

## **PART 2 - PRODUCTS**

### **2.1 PRODUCT OPTIONS**

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, that are new at time of installation.
  - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
  - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
  - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
  - 4. Where products are accompanied by the term "as selected," Architect will make selection.
  - 5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
  - 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
  - 7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures: Procedures for product selection include the following:
  - 1. Product: Where Specification paragraphs or subparagraphs titled "Product" name a single product and manufacturer, provide the product named.
    - a. Substitutions may be considered, unless otherwise indicated.



2. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled "Manufacturer" or "Source" name single manufacturers or sources, provide a product by the manufacturer or from the source named that complies with requirements.
  - a. Substitutions may be considered, unless otherwise indicated.
3. Products: Where Specification paragraphs or subparagraphs titled "Products" introduce a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
  - a. Substitutions may be considered, unless otherwise indicated.
4. Manufacturers: Where Specification paragraphs or subparagraphs titled "Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
  - a. Substitutions may be considered, unless otherwise indicated.
5. Available Products: Where Specification paragraphs or subparagraphs titled "Available Products" introduce a list of names of both products and manufacturers, provide one of the products listed or another product that complies with requirements. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.
6. Available Manufacturers: Where Specification paragraphs or subparagraphs titled "Available Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed or another manufacturer that complies with requirements. Comply with provisions in "Comparable Products" Article to obtain approval for use of an unnamed product.
7. Product Options: Where Specification paragraphs titled "Product Options" indicate that size, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide either the specific product or system indicated or a comparable product or system by another manufacturer. Comply with provisions in "Product Substitutions" Article.
8. Visual Matching Specification: Where Specifications require matching an established Sample, select a product (and manufacturer) that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches satisfactorily.
  - a. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents on "substitutions" for selection of a matching product.
9. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.
  - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that does not include premium items.

- b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.

## 2.2 PRODUCT SUBSTITUTIONS

- A. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
  - 1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
  - 2. Requested substitution does not require extensive revisions to the Contract Documents.
  - 3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
  - 4. Substitution request is fully documented and properly submitted.
  - 5. Requested substitution will not adversely affect Contractor's Construction Schedule.
  - 6. Requested substitution has received necessary approvals of authorities having jurisdiction.
  - 7. Requested substitution is compatible with other portions of the Work.
  - 8. Requested substitution has been coordinated with other portions of the Work.
  - 9. Requested substitution provides specified warranty.
  - 10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

## 2.3 COMPARABLE PRODUCTS

- A. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product:
  - 1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
  - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
  - 3. Evidence that proposed product provides specified warranty.
  - 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
  - 5. Samples, if requested.

## PART 3 - EXECUTION (Not Used)

END OF SECTION 01600

## SECTION 01700 - EXECUTION REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. General installation of products.
4. Progress cleaning.
5. Starting and adjusting.
6. Protection of installed construction.
7. Correction of the Work.

- B. Related Sections include the following:

1. Division 1 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
2. Division 1 Section "Submittal Procedures" for submitting surveys.
3. Division 1 Section "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
4. Division 1 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

#### 1.3 SUBMITTALS

- A. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

#### 1.4 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
  - 1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
  - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  - 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
    - a. Description of the Work.
    - b. List of detrimental conditions, including substrates.
    - c. List of unacceptable installation tolerances.
    - d. Recommended corrections.
  - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Owner not less than five days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Owner's written permission.
- C. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- E. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

### 3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
  - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
  - 2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
  - 3. Inform installers of lines and levels to which they must comply.
  - 4. Check the location, level and plumb, of every major element as the Work progresses.
  - 5. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
  - 6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

### 3.4 FIELD ENGINEERING

- A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
  - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
  - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- B. Benchmarks: Establish and maintain a minimum of Insert number permanent benchmarks on Project site, referenced to data established by survey control points.
  - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
  - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
  - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

### 3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1. Make vertical work plumb and make horizontal work level.
  - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
  - 4. Maintain minimum headroom clearance of 8 feet in spaces without a suspended ceiling.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
- G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### 3.6 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.



- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
  - 1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- H. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

### 3.7 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

### 3.8 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

### 3.9 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."
  - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01700

## SECTION 01731 - CUTTING AND PATCHING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.
- B. Related Sections include the following:
  - 1. Division 1 Section "Selective Demolition" for demolition of selected portions of the building for alterations.
  - 2. Division 7 Section "Through-Penetration Firestop Systems" for patching fire-rated construction.
  - 3. Divisions 2 through 16 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
    - a. Requirements in this Section apply to mechanical and electrical installations. Refer to Divisions 15 and 16 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

#### 1.3 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

#### 1.4 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch the following operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
  - 1. Primary operational systems and equipment.
  - 2. Air or smoke barriers.
  - 3. Fire-protection systems.

4. Control systems.
  5. Communication systems.
  6. Conveying systems.
  7. Electrical wiring systems.
  8. Operating systems of special construction in Division 13 Sections.
- C. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
1. Water, moisture, or vapor barriers.
  2. Membranes and flashings.
  3. Equipment supports.
  4. Piping, ductwork, vessels, and equipment.
  5. Noise- and vibration-control elements and systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
1. If possible, retain original Installer or fabricator to cut and patch exposed Work listed below. If it is impossible to engage original Installer or fabricator, engage another recognized, experienced, and specialized firm.
    - a. Roofing.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

## 1.5 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

## CUTTING AND PATCHING

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1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
  1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

### **3.2 PREPARATION**

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services to occupied areas.

### **3.3 PERFORMANCE**

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
  5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
  2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
  3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
  4. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
  5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION 01731

## SECTION 01732 - SELECTIVE DEMOLITION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Demolition and removal of selected portions of a building or structure.
  - 2. Demolition and removal of selected site elements.
  - 3. Repair procedures for selective demolition operations.
- B. Related Sections include the following:
  - 1. Division 1 Section "Summary" for use of the premises and phasing requirements.
  - 2. Division 1 Section "Work Restrictions" for restrictions on use of the premises due to Owner or tenant occupancy.
  - 3. Division 1 Section "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for selective demolition operations.
  - 4. Division 1 Section "Cutting and Patching" for cutting and patching procedures for selective demolition operations.
  - 5. Division 2 Section "Site Clearing" for site clearing and removal of above- and below-grade improvements.
  - 6. Division 15 Sections for demolishing, cutting, patching, or relocating mechanical items.
  - 7. Division 16 Sections for demolishing, cutting, patching, or relocating electrical items.

#### 1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

#### 1.4 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.
- B. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.

#### 1.5 SUBMITTALS

- A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- B. Proposed Dust-Control and Noise-Control Measures: Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.
- C. Schedule of Selective Demolition Activities: Indicate the following:
  - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building manager's and other tenants' on-site operations are uninterrupted.
  - 2. Interruption of utility services.
  - 3. Coordination for shutoff, capping, and continuation of utility services.
  - 4. Use of elevator and stairs.
  - 5. Locations of temporary partitions and means of egress.
  - 6. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- D. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.
- E. Predemolition Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.

#### 1.6 QUALITY ASSURANCE

- A. Professional Engineer Qualifications: Comply with Division 1 Section "Quality Requirements."



- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Standards: Comply with ANSI A10.6 and NFPA 241.
- D. Predemolition Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

## 1.7 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted. Provide not less than 120 hours' notice to Owner of activities that will affect Owner's operations.
- B. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
  - 1. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from the Owner.
- C. Owner assumes no responsibility for condition of areas to be selectively demolished.
  - 1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
  - 2. Before selective demolition, Owner will remove the following items:
    - a. All moveable furniture.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site will not be permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.

## 1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

## PART 2 - PRODUCTS

### 2.1 REPAIR MATERIALS

- A. Use repair materials identical to existing materials.
  - 1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
  - 2. Use materials whose installed performance equals or surpasses that of existing materials.
- B. Comply with material and installation requirements specified in individual Specification Sections.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.
- F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

### 3.2 UTILITY SERVICES

- A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.
- B. Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to authorities having jurisdiction.
  - 1. Provide at least 120 hours' notice to Owner if shutdown of service is required during changeover.

- C. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utilities serving areas to be selectively demolished.
  - 1. Owner will arrange to shut off indicated utilities when requested by Contractor.
  - 2. Arrange to shut off indicated utilities with utility companies.
  - 3. If utility services are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary utilities that bypass area of selective demolition and that maintain continuity of service to other parts of building.
  - 4. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
- D. Utility Requirements: Refer to Division 15 and 16 Sections for shutting off, disconnecting, removing, and sealing or capping utilities. Do not start selective demolition work until utility disconnecting and sealing have been completed and verified in writing.

### 3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
  - 2. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
  - 3. Protect existing site improvements, appurtenances, and landscaping to remain.
  - 4. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
- B. Temporary Shoring: Provide and maintain exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of construction to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
  - 1. Strengthen or add new supports when required during progress of selective demolition.

### 3.4 POLLUTION CONTROLS

- A. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations.
  - 1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
  - 2. Wet mop floors to eliminate trackable dirt and wipe down walls and doors of demolition enclosure. Vacuum carpeted areas.

- B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- C. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

### 3.5 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
  - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
  - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
  - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
  - 5. Maintain adequate ventilation when using cutting torches.
  - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
  - 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
  - 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  - 9. Dispose of demolished items and materials promptly.
  - 10. Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
- B. Existing Facilities: Comply with building manager's requirements for using and protecting elevators, stairs, walkways, loading docks, building entries, and other building facilities during selective demolition operations.
- C. Removed and Reinstalled Items: Comply with the following:
  - 1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
  - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  - 3. Protect items from damage during transport and storage.

4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.
- E. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals, using power-driven saw, then remove concrete between saw cuts.
- F. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- G. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.
- H. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI-WP and its Addendum.
  1. Remove residual adhesive and prepare substrate for new floor coverings by one of the methods recommended by RFCI.
- I. Roofing: Remove no more existing roofing than can be covered in one day by new roofing. Refer to applicable Division 7 Section for new roofing requirements.
- J. Air-Conditioning Equipment: Remove equipment without releasing refrigerants.

### 3.6 PATCHING AND REPAIRS

- A. General: Promptly repair damage to adjacent construction caused by selective demolition operations.
- B. Patching: Comply with Division 1 Section "Cutting and Patching."

### 3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION 01732

## SECTION 01770 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Inspection procedures.
  - 2. Project Record Documents.
  - 3. Operation and maintenance manuals.
  - 4. Warranties.
  - 5. Instruction of Owner's personnel.
  - 6. Final cleaning.
- B. Related Sections include the following:
  - 1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
  - 2. Division 1 Section "Construction Progress Documentation" for submitting Final Completion construction photographs and negatives.
  - 3. Division 1 Section "Execution Requirements" for progress cleaning of Project site.
  - 4. Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
  - 5. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
  - 6. Division 1 Section "Demonstration and Training" for requirements for instruction of Owner's personnel.
  - 7. Divisions 2 through 16 Sections for specific closeout and special cleaning requirements for products of those Sections.

#### 1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
  - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
  - 2. Advise Owner of pending insurance changeover requirements.

3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  5. Prepare and submit Project Record Documents, operation and maintenance manuals, damage or settlement surveys, and similar final record information.
  6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
  7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
  8. Complete startup testing of systems.
  9. Submit test/adjust/balance records.
  10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  11. Advise Owner of changeover in heat and other utilities.
  12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
  13. Complete final cleaning requirements, including touchup painting.
  14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
  2. Results of completed inspection will form the basis of requirements for Final Completion.

#### 1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
  2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Submit pest-control final inspection report and warranty.
  5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
  - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

#### 1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
  - 1. Organize list of spaces in sequential order.
  - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  - 3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Page number.

#### 1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
  - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (115-by-280-mm) paper.
  - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
  - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.



- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

## PART 3 - EXECUTION

### 3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
  - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Remove snow and ice to provide safe access to building.
    - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    - h. Sweep concrete floors broom clean in unoccupied spaces.
    - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
    - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials.

- Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
- k. Remove labels that are not permanent.
  - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
    - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
  - m. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
  - n. Replace parts subject to unusual operating conditions.
  - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
  - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
  - q. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01770

## SECTION 01781 - PROJECT RECORD DOCUMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Record Drawings.
  - 2. Record Specifications.
  - 3. Record Product Data.
- B. Related Sections include the following:
  - 1. Division 1 Section "Closeout Procedures" for general closeout procedures.
  - 2. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
  - 3. Divisions 2 through 16 Sections for specific requirements for Project Record Documents of products in those Sections.

#### 1.3 SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit one set of marked-up Record Prints.
  - 2. Number of Copies: Submit copies of Record Drawings as follows:
    - a. Submit one set of marked-up Record Prints.
- B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one copy of each Product Data submittal.
  - 1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as Record Product Data.

## PART 2 - PRODUCTS

### 2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
    - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    - b. Accurately record information in an understandable drawing technique.
    - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
  2. Content: Types of items requiring marking include, but are not limited to, the following:
    - a. Dimensional changes to Drawings.
    - b. Revisions to details shown on Drawings.
    - c. Depths of foundations below first floor.
    - d. Locations and depths of underground utilities.
    - e. Revisions to routing of piping and conduits.
    - f. Revisions to electrical circuitry.
    - g. Actual equipment locations.
    - h. Duct size and routing.
    - i. Locations of concealed internal utilities.
    - j. Changes made by Change Order or Construction Change Directive.
    - k. Changes made following Architect's written orders.
    - l. Details not on the original Contract Drawings.
    - m. Field records for variable and concealed conditions.
    - n. Record information on the Work that is shown only schematically.
  3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
  4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
  5. Mark important additional information that was either shown schematically or omitted from original Drawings.
  6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
3. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.
4. Identification: As follows:
  - a. Project name.
  - b. Date.
  - c. Designation "PROJECT RECORD DRAWINGS."
  - d. Name of Architect.
  - e. Name of Contractor.

## 2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  3. Record the name of the manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
  4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
  5. Note related Change Orders, Record Drawings, and Product Data where applicable.

## 2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  3. Note related Change Orders, Record Drawings, and Product Data where applicable.

## 2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

## PART 3 - EXECUTION

### 3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 01781

## SECTION 01782 - OPERATION AND MAINTENANCE DATA

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Operation and maintenance documentation directory.
  - 2. Emergency manuals.
  - 3. Operation manuals for systems, subsystems, and equipment.
  - 4. Maintenance manuals for the care and maintenance of products, materials, and finishes systems and equipment.
- B. Related Sections include the following:
  - 1. Division 1 Section "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
  - 2. Division 1 Section "Closeout Procedures" for submitting operation and maintenance manuals.
  - 3. Division 1 Section "Project Record Documents" for preparing Record Drawings for operation and maintenance manuals.
  - 4. Divisions 2 through 16 Sections for specific operation and maintenance manual requirements for products in those Sections.

#### 1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

#### 1.4 SUBMITTALS

- A. Final Submittal: Submit 1 copy of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 15 days after final inspection.
  - 1. Correct or modify each manual to comply with Architect's comments. Submit 3 copies of each corrected manual within 15 days of receipt of Architect's comments.

## 1.5 COORDINATION

- A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

## PART 2 - PRODUCTS

### 2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Organization: Include a section in the directory for each of the following:
  - 1. List of documents.
  - 2. List of systems.
  - 3. List of equipment.
  - 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with the same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

### 2.2 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
  - 1. Title page.
  - 2. Table of contents.
  - 3. Manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
  - 1. Subject matter included in manual.
  - 2. Name and address of Project.
  - 3. Name and address of Owner.
  - 4. Date of submittal.



5. Name, address, and telephone number of Contractor.
  6. Name and address of Architect.
  7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
    - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
    - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
  2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
  3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
  4. Supplementary Text: Prepared on 8-1/2-by-11-inch, 20-lb/sq. ft. white bond paper.
  5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
    - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

## 2.3 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
  2. Emergency instructions.
  3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
1. Fire.
  2. Flood.
  3. Gas leak.
  4. Water leak.
  5. Power failure.
  6. Water outage.
  7. System, subsystem, or equipment failure.
  8. Chemical release or spill.
- C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- D. Emergency Procedures: Include the following, as applicable:
1. Instructions on stopping.
  2. Shutdown instructions for each type of emergency.
  3. Operating instructions for conditions outside normal operating limits.
  4. Required sequences for electric or electronic systems.
  5. Special operating instructions and procedures.

## 2.4 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions.
  2. Performance and design criteria if Contractor is delegated design responsibility.
  3. Operating standards.
  4. Operating procedures.
  5. Operating logs.
  6. Wiring diagrams.
  7. Control diagrams.
  8. Piped system diagrams.
  9. Precautions against improper use.
  10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:
1. Product name and model number.
  2. Manufacturer's name.
  3. Equipment identification with serial number of each component.

4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

## 2.5 PRODUCT MAINTENANCE MANUAL

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.

4. Schedule for routine cleaning and maintenance.
  5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

## 2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in the manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
1. Standard printed maintenance instructions and bulletins.
  2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
  3. Identification and nomenclature of parts and components.
  4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
  2. Troubleshooting guide.
  3. Precautions against improper maintenance.
  4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  5. Aligning, adjusting, and checking instructions.
  6. Demonstration and training videotape, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.

2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
  1. Include procedures to follow and required notifications for warranty claims.

## **PART 3 - EXECUTION**

### **3.1 MANUAL PREPARATION**

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
  1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
  2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
  1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.

1. Do not use original Project Record Documents as part of operation and maintenance manuals.
  2. Comply with requirements of newly prepared Record Drawings in Division 1 Section "Project Record Documents."
- F. Comply with Division 1 Section "Closeout Procedures" for the schedule for submitting operation and maintenance documentation.

END OF SECTION 01782

## SECTION 02230 – SITE CLEARING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes the following:
  - 1. Removing vegetation.
  - 2. Clearing and grubbing.
  - 3. Topsoil stripping.
  - 4. Removing above-grade site improvements.
  - 5. Disconnecting, capping or sealing, and removing site utilities, as necessary.

#### 1.2 MATERIALS OWNERSHIP

- A. Except for materials interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
- B. Notify utility locator service for are where Project is located before site clearing.

### PART 2 - PRODUCTS

#### 2.1 SOIL MATERIALS

- A. Satisfactory Soil Materials: As specified in Division 2 Section "Earthwork."
  - 1. Obtain approved borrow soil materials off-site.

### PART 3 - EXECUTION

#### 3.1 PREPARATION

- A. Provide erosion-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- B. Protect existing site improvements to remain from damage during construction.
  - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

#### 3.2 UTILITIES

- A. Do not interrupt utilities serving facilities occupied by Owner or others unless permitted. Arrange to provide temporary utility services.
- B. Excavate for and remove underground utilities in construction area that must be removed.

### 3.3 CLEARING AND GRUBBING

- A. Remove obstructions, shrubs, grass, and other vegetation to permit installation of new construction.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated.
  - 1. Place fill material in horizontal layers not exceeding 8-inch loose depth, and compact each layer to a density equal to requirements of geotechnical report.

### 3.4 TOPSOIL STRIPPING

- A. Remove sod and grass, if any, before stripping topsoil.
- B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.

### 3.5 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as necessary to facilitate new construction.

### 3.6 DISPOSAL

- A. Disposal: Remove surplus soil material, topsoil, obstructions, demolished materials, and waste materials, including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 02230



## SECTION 02300 - EARTHWORK

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. The extent of the work is shown on the drawings.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Preparing subgrades for slabs-on-grade and pavements.
  - 2. Excavating and backfilling for buildings and structures.
  - 3. Drainage course for slabs-on-grade.
  - 4. Granular structural fill.
  - 5. Subbase course for concrete pavements.
  - 6. Subbase and base course for asphalt paving.
  - 7. Excavating and backfilling for utility trenches.
- B. Related Sections include the following:
  - 1. Division 2 Section "Site Clearing," site stripping, grubbing, stripping and stockpiling topsoil.
  - 2. Division 2 Section "Storm Sewage Systems" for storm sewer installation.
  - 3. Division 2 Section "Concrete Filled Steel Piles" for pile installation.
  - 4. Divisions 15 & 16 Sections for installing underground mechanical, fire protection and electrical utilities.

#### 1.3 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
  - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
  - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Course placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

- E. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
  - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
  - 2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
  - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Granular Structural Fill: See geotechnical report.
- I. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- J. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- K. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- L. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

#### 1.4 SUBMITTALS

- A. Product Data: For the following:
  - 1. Each type of plastic warning tape.
- B. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
  - 1. Classification according to ASTM D 2487 of each on-site and borrow soil material proposed for fill and backfill.
  - 2. Laboratory compaction curve according to ASTM D 1557 for each on-site and borrow soil material proposed for fill and backfill.

## 1.5 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials testing, as documented according to ASTM D 3740 and ASTM E 548.

## 1.6 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner unless permitted in writing by Architect and then only after arranging to provide temporary utility services according to requirements indicated.
  - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Architect's written permission.
  - 3. Contact utility-locator service for area where Project is located before excavating.

## PART 2 - PRODUCTS

### 2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter. See geotechnical report.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.
  - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.

- F. Engineered Fill (Granular Structural Fill): Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 2 Section "Site Clearing."

#### **3.2 DEWATERING**

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
  - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

#### **3.3 EXCAVATION, GENERAL**

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
  - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

#### **3.4 EXCAVATION FOR STRUCTURES**

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
  - 1. Remove material beneath floor slab and building perimeter and replace with compacted structural fill, as directed in the geotechnical report.
  - 2. Pile Foundations: Stop excavations 6 to 12 inches above bottom of pile cap before piles are placed. After piles have been driven, remove loose and displaced material. Excavate to final grade, leaving solid base to receive concrete pile caps.

### 3.5 EXCAVATION FOR PAVEMENTS

- A. Excavate surfaces under pavements to indicated lines, cross sections, elevations, and subgrades.

### 3.6 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
  - 1. Clearance: 12 inches each side of pipe or conduit.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
  - 1. For pipes and conduit less than 6 inches in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.

### 3.7 SUBGRADE INSPECTION

- A. Notify Architect when excavations have reached required subgrade.
- B. If Architect determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade below the building slabs, pavements and structural fill with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades. Follow recommendations in geotechnical report.
  - 1. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by geotechnical engineer, and replace with compacted backfill or fill as directed.

- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

### 3.8 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.
  - 1. Fill unauthorized excavations under other construction or utility pipe as directed by Architect.

### 3.9 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

### 3.10 BACKFILL

- A. Place and compact backfill and structural fill in excavations promptly and as recommended in geotechnical report, but not before completing the following:
  - 1. Construction below finish grade.
  - 2. Surveying locations of underground utilities for Record Documents.
  - 3. Testing and inspecting underground utilities.
  - 4. Removing concrete formwork.
  - 5. Removing trash and debris.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

### 3.11 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

- C. Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Division 3 Section "Cast-in-Place Concrete."
- D. Provide 4-inch- thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase.
- E. Place and compact initial backfill of subbase material and/or satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit.
  - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- F. Backfill voids with satisfactory soil while installing and removing shoring and bracing.
- G. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- H. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

### 3.12 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
  - 1. Under pavements, use satisfactory soil material.
  - 2. Under building slabs, use engineered fill.
  - 3. Under footings and foundations, use engineered fill, per geotechnical report.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

### 3.13 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
  - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
  - 2. Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

### 3.14 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 to 12 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:
  - 1. Under structures, building slabs, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
  - 2. Under walkways and other areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 90 percent.
  - 3. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.
  - 4. Follow all recommendations in geotechnical report.

### 3.15 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
  - 1. Provide a smooth transition between adjacent existing grades and new grades.
  - 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
  - 1. Lawn or Unpaved Areas: Plus or minus 1 inch.
  - 2. Pavements: Plus or minus 1/2 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

### 3.16 SUBBASE AND BASE COURSES

- A. Place subbase and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase and base course under pavements as follows:
  - 1. Place base course material over subbase course under hot-mix asphalt pavement.
  - 2. Shape subbase and base course to required crown elevations and cross-slope grades.
  - 3. Place subbase and base course 6 inches or less in compacted thickness in a single layer.
  - 4. Place subbase and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.



5. Compact subbase and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.
- C. Pavement Shoulders: Place shoulders along edges of subbase and base course to prevent lateral movement. Construct shoulders, at least 12 inches wide, of satisfactory soil materials and compact simultaneously with each subbase and base layer to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.

### 3.17 DRAINAGE COURSE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
  1. Place drainage course 6 inches or less in compacted thickness in a single layer.
  2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

### 3.18 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.
- D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
  1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least 1 test for every 2000 sq. ft. or less of paved area or building slab, but in no case fewer than 3 tests.
  2. Foundation Wall Backfill: At each compacted backfill layer, at least 1 test for each 100 feet or less of wall length, but no fewer than 2 tests.
  3. Trench Backfill: At each compacted initial and final backfill layer, at least 1 test for each 150 feet or less of trench length, but no fewer than 2 tests.

- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

### 3.19 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

### 3.20 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 02300

## SECTION 02456 - CONCRETE-FILLED STEEL PILES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes concrete-filled steel pipe piles.

#### 1.3 UNIT PRICES

- A. General: Submit unit price per linear foot of installed pile to General Contractor at the time of bidding.
- B. The Contract Sum: Base the Contract Sum on number and dimensions of piles indicated from tip to cutoff, plus not less than 12 inches of overlength for cutting piles at cutoff elevations.
- C. Measurement: Using data obtained during pile driving, Architect will calculate actual total net length of piles installed. Measurements will be based on effective length of piles in place, with lengths measured to nearest 12 inches.
  - 1. Additional payment for pile lengths in excess of that indicated, and credit for pile lengths less than that indicated, will be calculated at unit prices stated in the Contract, based on net addition or deduction to total pile length.
  - 2. Unit prices include labor, materials, tools, equipment, and incidentals for furnishing, driving, cutting off, capping, and splicing piles and disposing of cutoffs.
  - 3. Test piles that become part of permanent foundation system will be considered as an integral part of the Work.
  - 4. No payment will be made for rejected piles, including piles driven out of tolerance, defective piles, or piles damaged during handling or driving.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of pile product, accessory, and paint indicated.
- B. Shop Drawings: Show fabrication and installation details for piles, including splices and tip details.
  - 1. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld.
  - 2. Indicate locations, sizes, type, and arrangement of reinforcement.

3. Include arrangement of static pile reaction frame, test and anchor piles, equipment, and instrumentation. Submit structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Welding certificates.
  - D. Design Mixes: For each concrete mix. Include revised mix proportions when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
    1. Laboratory Test Reports: For evaluating concrete materials and mix design tests.
  - E. Qualification Data: For Installer.
  - F. Material Test Reports: For concrete materials.
  - G. Material Certificates: For steel pipe piles and accessories, steel reinforcement and concrete admixtures, signed by manufacturers.
  - H. Pile-Driving Equipment: Include type, make, maximum rated energy, and rated energy per blow of hammer; weight of striking part of hammer; weight of drive cap; details, type, and structural properties of hammer cushion; and details of follower and jetting equipment.
    1. Include mandrel type and details.
  - I. Static Pile Test Reports: Submit within two days of completing each test.
  - J. Pile-Driving Records: Submit within two days of driving each pile.

## 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A firm experienced in installing driven piles similar in material, design, and extent indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
  1. Installer's responsibility includes providing a qualified professional engineer to prepare pile-driving records.
- B. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.
- C. Comply with requirements of the following publications:
  1. ACI 301, "Specifications for Structural Concrete."
  2. AISC's "Load and Resistance Factor Design Specification for Structural Steel Buildings."
  3. AISC's "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."
  4. AISI's "Specification for the Design of Cold-Formed Steel Structural Members."

- D. Welding Standards: Qualify welding procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel."
- E. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver piles to Project site in such quantities and at such times to ensure continuity of installation. Handle and store piles at Project site to prevent physical damage.
  - 1. Protect pile coatings and touch up damage to coatings before driving piles.

#### 1.7 PROJECT CONDITIONS

- A. Protect structures, underground utilities, and other construction from damage caused by pile driving.

### PART 2 - PRODUCTS

#### 2.1 STEEL PIPE PILES

- A. Steel Pipe: ASTM A 252, Yield strength of 55; seamless or welded.

#### 2.2 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.
- B. Plain Steel Wire: ASTM A 82, as drawn.
- C. Deformed-Steel Wire: ASTM A 496.

#### 2.3 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II.
  - 1. Fly Ash: ASTM C 618, Class C or F.
  - 2. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- B. Normal-Weight Aggregates: ASTM C 33, Class 4M, uniformly graded, 3/4-inch maximum aggregate size. Provide aggregates from a single source.
- C. Water: Potable, complying with ASTM C 94/C 94M requirements.

- D. Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent chloride ions by mass of cementitious material.
1. Air-Entraining Admixture: ASTM C 260.
  2. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
  3. Retarding Admixture: ASTM C 494/C 494M, Type B.
  4. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
  5. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
  6. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
  7. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

## 2.4 CONCRETE MIXES

- A. Prepare concrete design mixes according to ACI 301, determined by either laboratory trial batch or field test data basis.
1. Use a qualified testing agency for preparing and reporting proposed mix designs determined by laboratory trial batch.
- B. Proportion mixes according to ACI 301 to provide normal-weight concrete suitable for piles with the following properties:
1. Compressive Strength (28 Days): 3000 psi.
  2. Maximum Water-Cementitious Material Ratio at Point of Placement: 0.50.
  3. Slump Limit: 5 inches, plus or minus 1 inch.
- C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content of 2.5 to 4.5 percent.
- D. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement according to ACI 301 limits as if concrete were exposed to deicing chemicals.
- E. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- F. Concrete-mix design adjustments may be considered if characteristics of materials, Project conditions, weather, test results, or other circumstances warrant. Resubmit and obtain approval from Architect of proposed changes to concrete-mix proportions.

## 2.5 FABRICATION

- A. Pile Lengths: After reviewing static pile test reports, Architect will verify pile lengths.
- B. Fabricate and assemble piles in shop to greatest extent possible.

- C. Fabricate full-length piles by splicing pile lengths together. Maintain axial alignment of pile lengths.
  - 1. Welded Splices: Accurately mill meeting ends of steel pipe piles and bevel for welding. Continuously weld pile according to AWS D1.1 for procedures, appearance and quality of welds, and methods used in correcting welding work.
  - 2. Splice piles during fabrication or field installation.
- D. Pile-Length Markings: Permanently mark each pile with horizontal lines at 12-inch intervals; mark the distance from pile tip at 60-inch intervals.

## 2.6 CONCRETE MIXING

- A. Ready-Mixed Concrete: Comply with requirements and with ASTM C 94/C 94M.
  - 1. Do not add water to concrete mix after mixing.
  - 2. Maintain concrete temperature to not exceed 90 deg F.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Site Conditions: Do not start pile-driving operations until earthwork fills have been completed or excavations have reached an elevation of 6 to 8 inches above bottom of pile cap.

### 3.2 DRIVING EQUIPMENT

- A. Pile Hammer: Hydraulic-, or diesel-powered type capable of developing ultimate pile capacity indicated considering length and weight of pile and character of subsurface material anticipated.
- B. Hammer Cushions and Driving Caps: Between hammer and top of pile, provide hammer cushion and steel driving cap recommended by hammer manufacturer for type of pile.
- C. Leads: Use fixed or rigid-type pile-driver leads that will hold full length of pile firmly in position and in axial alignment with hammer. Extend leads to within 24 inches of elevation at which pile enters ground.

### 3.3 STATIC PILE TESTS

- A. General: Static pile tests will be used to verify design pile lengths and to confirm design load capacity of piles.
  - 1. Furnish test piles 60 inches longer than production piles.
  - 2. Actual length of piles will be based on results of static pile tests.
- B. Pile Tests: Arrange and perform the following pile tests:

1. Axial Compressive Static Load Test: ASTM D 1143.
  2. Axial Tension Static Load Test: ASTM D 3689.
  3. Lateral Load Test: ASTM D 3966.
- C. Equip each test pile with two telltale rods, according to ASTM D 1143, for measuring deformation during load test.
- D. Drive test piles at locations indicated to a tip elevation below final cutoff elevation equal to pile length specified as basis of bid, or to refusal, whichever occurs first. Piles will be considered as driven to refusal when 12 to 15 blows of hammer are required to produce a total penetration of 1- inch or less.
1. Install reinforcement and fill pile with concrete according to requirements.
  2. Before load-testing pile, allow concrete to cure a minimum of 14 days and reach its 28-day design compressive strength as established by test cylinders.
- E. Provide pile reaction frame, anchor piles, equipment, and instrumentation with sufficient reaction capacity to perform tests. Notify Architect at least 48 hours in advance of performing tests. On completion of testing, remove testing structure, anchor piles, equipment, and instrumentation.
1. Number of Test Piles: One single pile.
- F. Driving Test Piles: Use test piles identical to those required for Project and drive with appropriate pile-driving equipment operating at rated driving energy to be used in driving permanent piles.
1. Pile Design Load: As indicated.
- G. Approval Criteria: Allowable design capacity of test piles shall be determined by geotechnical engineer:
- H. Test Pile-Driving Records: Prepare driving records for each test pile, compiled and attested to by a qualified professional engineer. Include same data as required for driving records of permanent piles.
- I. Test piles that comply with requirements, including location tolerances, may be used on Project.
- 3.4 DRIVING PILES
- A. General: Continuously drive piles to elevations or penetration resistance indicated. Establish and maintain axial alignment of leads and pile before and during driving.
- B. Heaved Piles: Redrive heaved piles to tip elevation at least as deep as original tip elevation with a driving resistance at least as great as original driving resistance.
- C. Pile Splices: Splice piles during installation and align pile segments concentrically.



- D. Driving Tolerances: Drive piles without exceeding the following tolerances, measured at pile heads:
1. Location: 3 inches from location indicated after initial driving, and 4 inches after pile driving is completed.
  2. Plumb: Maintain 1 inch in 10 feet from vertical, or a maximum of 4 inches, measured when pile is above ground in leads.
- E. Excavation: Clean out steel pipe pile by removing soil and debris from inside pile before placing steel reinforcement or concrete.
- F. Withdraw damaged or defective piles and piles that exceed driving tolerances and install new piles within driving tolerances. Fill holes left by withdrawn piles as directed by Architect.
1. Rejected piles may be abandoned and cut off as directed by Architect.
  2. Leave rejected piles in place and install new piles in locations as directed by Architect.
  3. Fill holes left by withdrawn piles that will not be filled by new piles using cohesionless soil material such as gravel, broken stone, and gravel-sand mixtures. Place and compact in lifts not exceeding 72 inches.
- G. Cutting Off: Cut off tops of driven piles square with pile axis and at elevations indicated.
- H. Pile-Driving Records: Maintain accurate driving records for each pile, compiled and attested to by a qualified professional engineer. Include the following data:
1. Project name and number.
  2. Name of Contractor.
  3. Type of pile and date of casting.
  4. Pile location in pile group and designation of pile group.
  5. Sequence of driving in pile group.
  6. Pile dimensions.
  7. Ground elevation.
  8. Elevation of tips after driving.
  9. Final tip and cutoff elevations of piles after driving pile group.
  10. Records of re-driving.
  11. Elevation of splices.
  12. Type, make, model, and rated energy of hammer.
  13. Weight and stroke of hammer.
  14. Type of pile-driving cap used.
  15. Cushion material and thickness.
  16. Actual stroke and blow rate of hammer.
  17. Pile-driving start and finish times, and total driving time.
  18. Time, pile-tip elevation, and reason for interruptions.
  19. Number of blows for each 12 inches of penetration, and number of blows per 1 inch for the last 6 inches of driving.
  20. Pile deviations from location and plumb.
  21. Preboring, jetting, or special procedures used.
  22. Unusual occurrences during pile driving.

### 3.5 STEEL REINFORCEMENT

- A. Comply with recommendations in CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy bond with concrete.
- C. Fabricate and install reinforcement cages symmetrically about axis of pile pipe in a single unit.
- D. Accurately position, support, and secure reinforcement against displacement during concreting. Maintain minimum cover on reinforcement.
- E. Protect exposed ends of extended reinforcement, dowels, or anchor bolts from mechanical damage and exposure to weather.

### 3.6 CONCRETE PLACEMENT

- A. Do not place concrete until other piles within a radius of 20 feet have been driven and approved.
- B. Inspection: Before placing concrete, allow testing and inspecting agency to visually inspect and verify that each pile pipe is clean, watertight, plumb, and free of distortion or other defects.
- C. Place concrete in a continuous operation and without segregation immediately after cleaning out pile pipe.
- D. Place concrete by means of bottom discharge bucket, flexible drop chute, steep-sided funnel hopper, or tremie or pump concrete into place.
- E. Place concrete in a dry pile pipe unless placement underwater is approved by Architect.
  - 1. Place concrete underwater by tremie method or pumping. Control placement operations to ensure tremie is embedded no less than 60 inches into concrete, and flow of tremied concrete is continuous from bottom to top of pile pipe.
  - 2. Other methods of depositing concrete may be used if approved by Architect.
- F. Consolidate final 10 feet of concrete during placement to ensure that concrete is thoroughly worked around steel reinforcement and into corners.
- G. Screed concrete level at cutoff elevation and apply a scoured, rough finish.

### 3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing agency to perform field quality-control testing.
- B. High-strain dynamic monitoring shall be performed and reported according to ASTM D 4945 during initial driving and during restriking on 12 single piles.

- C. Low-strain integrity measurement shall be performed and reported for each pile.
- D. Weld Testing: In addition to visual inspection, welds shall be tested and inspected according to AWS D1.1 and the inspection procedures listed below, at testing agency's option. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
  - 1. Liquid Penetrant Inspection: ASTM E 165.
  - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
  - 3. Radiographic Inspection: ASTM E 94; minimum quality level "2-2T."
  - 4. Ultrasonic Inspection: ASTM E 164.
- E. Concrete: Sampling and testing of concrete for quality control shall include the following:
  - 1. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94/C 94M.
    - a. Slump: ASTM C 143/C 143M; one test at point of placement for each compressive-strength test, but no fewer than one test for each concrete load.
    - b. Concrete Temperature: ASTM C 1064/C 1064M; 1 test hourly when air temperature is 40 deg F and below or when 80 deg F and above, and 1 test for each set of compressive-strength specimens.
    - c. Compression Test Specimens: ASTM C 31/C 31M; one set of four standard cylinders for each compressive-strength test, unless otherwise indicated. Mold and store cylinders for laboratory-cured test specimens unless field-cured test specimens are required.
    - d. Compressive-Strength Tests: ASTM C 39/C 39M; one set for each truck load. One specimen shall be tested at 7 days, 2 specimens shall be tested at 28 days, and 1 specimen shall be retained in reserve for later testing if required.
  - 2. When frequency of testing will provide fewer than five strength tests for a given class of concrete, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  - 3. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing in-place concrete.
  - 4. Strength level of concrete will be considered satisfactory if averages of sets of 3 consecutive strength test results equal or exceed specified compressive strength and no individual strength test result falls below specified compressive strength by more than 500 psi.
  - 5. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 24 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, concrete type and class, location of concrete batch in piles, design compressive strength at 28 days, concrete-mix proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
  - 6. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as sole basis for acceptance or rejection.

7. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate concrete strengths or other requirements have not been met.

### 3.8 DISPOSAL

- A. Remove withdrawn piles and cutoff sections of piles from site and legally dispose of them off Owner's property.

END OF SECTION 02456